SUMMARY OF COTTON FIBER AND PROCESSING TEST RESULTS
CROP OF 1984

INTRODUCTION

This report contains information on the fiber properties and spinning performance of cotton from major commercial production areas of the United States. Similar reports have been published annually since 1946.* These reports summarize and add supplemental information to the data published in biweekly reports which were titled "Cotton Fiber and Processing Test Results, Crop of 1984" and numbered 1 through 14.

The results of fiber and spinning tests made in connection with these annual surveys provide data for studies of the relationships between fiber properties, processing performance and product quality. The data is used to measure the effectiveness of the standards to be sure that they continue to reflect differences in utility. The biweekly reports enable merchants and manufacturers to use the results to locate sources of cotton to meet their specific requirements. Farmers and breeders may also use the data as a source of quality information regarding the various varieties of cottons produced under commercial growing conditions.

SAMPLING PROCEDURES

The procedure for selecting samples for the 1984 survey was designed to provide test lots representing all major varieties in each of the territories served by Cotton Division Marketing Services Offices (MSO's). Variety selections were based on the predominant varieties planted in each MSO territory as reported by the Cotton Division in "Cotton Varieties Planted, 1984 Crop." A production area was selected to represent the leading variety and one to represent each of the other varieties with an expected production of 10,000 bales or more in each MSO territory. Additional areas were selected for those varieties with a production of over 200,000 bales. One additional production area was selected for each 200,000 bales or portion thereof in excess of the first 200,000 bales. Production areas with at least 70 percent of one variety were designated as that variety with no attempt made to maintain the purity of the variety except by selection of representative production areas. However, in some cases where there was an unusual interest in a particular variety and a low percentage was planted in the area, the MSO selected lots representing 100 percent of the variety. The locations of the 98 production areas selected for the 1984 survey are shown in Figure 1.

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*Copies of past summary reports may be obtained from the Testing Section, Cotton Division, AMS, USDA, P.O. Box 67, Clemson, SC 29631, until supplies are exhausted.

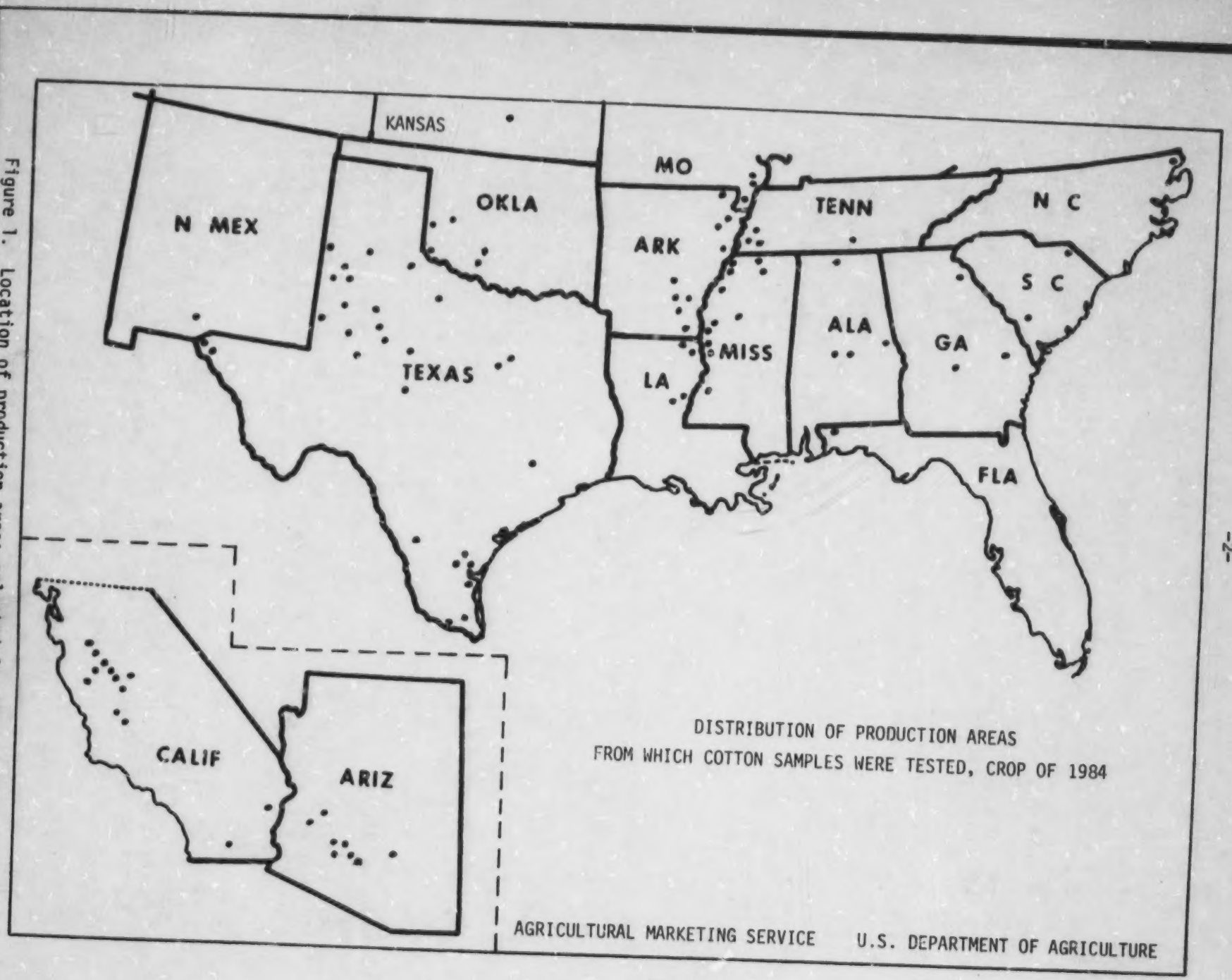

Figure 1. Location of production areas selected for the 1984 survey.

Two test lots were collected from each production area during the harvest season. Lots were selected to represent the predominant grade and staple being classed at the time of collection. For the most part, these areas produce the specified qualities in quantities large enough to enable buyers to obtain lots of even-running grade and staple. Obviously, other qualities of cotton are available in each area as a result of normal seasonal, soil, harvesting and other variations. Most production areas also produce cotton of varieties other than those included in these tests.

Each spinning lot used in this study was made up of 20 to 30 samples of the same grade and staple length from bales classed for growers under the Smith-Doxey Act. These even-running lots of samples were then tested at the Cotton Division's Fiber and Spinning Laboratory located in Clemson, South Carolina. While this method of collecting samples does not provide data for all qualities in the crop, it does provide average test results for those qualities in largest supply during the collection period.

LABORATORY PROCEDURES

Fiber and spinning tests were performed under standardized procedures at the Cotton Division's Fiber and Spinning Laboratory in Clemson, S.C. Most of the fiber tests were performed in the standard atmospheric conditions of 65 percent relative humidity and temperature of 70 degrees Fahrenheit. Standard test procedures as outlined by the American Society for Testing and Materials (ASTM) were used in making tests. Tests not covered by ASTM were performed using commonly accepted procedures as recommended by the instrument manufacturer. Five subsamples were taken at random from each spinning lot to provide representative specimens for the fiber tests.

Yarn processing or spinning tests were performed by a technique developed in the Cotton Division laboratories for processing small lots of cotton on standard-type textile machines. The samples in each lot were thoroughly composited by hand-mixing before being fed to the first process picker. This hand-mixing is similar to the machine-mixing normally obtained in cotton textile opening equipment. Observations were made at each process to measure processing behavior and the yarns produced were tested to measure product quality.

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On the basis of average past performance, cottons were grouped according to the expected staple length for the specified variety. All cottons of the specified variety were spun in the same manner, regardless of difference in staple length. This was done so that direct comparisons of different lots of cotton within a specified variety could be made. These samples were carded at specified production rates and spun into numbers that reflect the manufacturing values of the varieties tested. In general, the rate of carding and yarn numbers from the 1984 crop are as follows:

Group 1 - Short staple cottons, carded at 12-1/2 pounds per hour and spun into carded 8s and 22s yarns with a twist multiplier of 4.40 plus a carded yarn spinning potential test for all lots. This includes varieties which normally produce staple lengths 31/32 inch and shorter.

Group 2 - Medium staple cottons, carded at 9-1/2 pounds per hour and spun into carded 22s and 50s yarn with a twist multiplier of 4.00 plus a carded yarn spinning potential test for all lots. This group includes varieties which normally produce cottons from 1 inch through 1-3/32 inches staple length.

Group 3 - Long staple cottons, carded at 6-1/2 pounds per hour and spun into both carded and combed 22s and 50s yarns with a twist multiplier of 3.80 plus a carded yarn spinning potential test for all lots. This group includes upland varieties which normally produce cottons from 1-1/8 inches through 1-1/4 inches in staple length.

Group 4 - Extra long staple cottons, carded at 4-1/2 pounds per hour and spun into combed 50s and 80s yarns with a twist multiplier of 3.60. This group includes all American Pima and American upland extra long staple varieties which are usually 1-5/16 inches or longer in staple length.

DISCUSSION OF TEST RESULTS

U.S. Average - Upland Cotton

One hundred and ninety-eight spinning lots of short, medium and long staple cottons were tested from the 1984 cotton crop compared to 154 from the 1983 crop. Fiber test results showed the 1984-crop upland cottons to be longer, finer,and less mature than those tested the year before. HVI fiber strength was higher while Stelometer 1/8 in. gage strength was about the same as a year ago. Both Shirley Analyzer non-lint content and picker and card waste were unchanged from levels of a year earlier. Sugar content was 0.08 percentage points higher. Yarns spun from these 198 spinning lots had the same average skein strength as a year earlier. Yarn appearance grades were slightly higher as was the average spinning potential number. The number of neps per 1000 yards was higher in yarns produced from 1984 upland cottons.

Group 1 - Short Staple Cottons

A total of 35 short staple samples were tested this season compared to 27 last year. These short staple cottons were slightly longer with a lower average mike. FMT fineness and FMT maturity ratio were lower than last season. HVI 1/8-inch gage fiber strength was higher while Stelometer strength remained the same. Sugar tests on the 35 samples averaged higher this season. Non-lint content and machine waste were both higher. Yarn skein strength was higher while yarn appearance grades were lower. The average spinning potential number of these short staple samples was higher than the average number for 1983-crop samples.

Group 2 - Medium Staple Cottons

One hundred and sixty-one medium staple spinning lots were tested from the 1984 cotton crop compared to 123 a year earlier. These medium staple lots were longer, finer, and less mature than their counterparts from the previous season. Both HVI fiber strength and sugar content were higher. Non-lint content and machine waste were at about the same level as a year ago. Yarn skein strength for the 161 medium staple samples averaged 106 pounds, the same as a year ago. Yarn appearance grades averaged slightly higher than last season's, while there was an increase in the number of yarn neps.

The Southeastern production area include the states of North Carolina, South Carolina, Georgia, Alabama, and this year, Florida. A total of 22 lots were tested from the 1984 crop, an increase of 6 lots over the 1983 total. Fiber tests showed these medium staple cottons were longer and slightly stronger compared to the previous year. Fibers were finer and had a lower maturity ratio than in 1983. Sugar content was higher. Non-lint content averaged 2.9 percent compared to 3.0 percent a year ago. Yarns spun from these medium staple cottons were stronger with higher average appearance grades than in the previous season. The spinning potenial yarn number for this season was 63, an increase of 7 over last season.

Tennessee, Missouri, Arkansas, Lousiana, and Mississippi make up the South Central area. A total of 62 medium staple spinning lots were received this year from the South Central area compared to 48 from the 1983 crop. Fiber length increased, while the average micronaire declined. Both FMT fineness and maturity ratio averaged lower than in the previous year. Stelometer 1/8 in. gage strength indicated these samples were weaker. Picker and card waste was higher while the yarn skein strength of these medium staple cottons was lower. Yarn appearance grades were lower this season and the average nep count was higher. The average spinning potential number was 53 compared to last year's average of 59.

The Southwestern production area is made up of Oklahoma, Kansas and all of Texas except the far western counties served by the El Paso Marketing Services Office. A total of 31 medium staple lots were tested from the 1984 cotton crop compared to 28 from the 1983 crop. Fiber tests showed the 1984-crop cottons to be slightly shorter but stronger than in the previous season. The fibers had a lower average mike reading and a higher sugar content than a year ago. Shirley Analyzer non-lint content remained the same, while picker and card waste was lower. Yarns spun from these 31 medium staple cottons had an average skein strength of 98 pounds, unchanged from last season. Yarn appearance grades were higher, and yarn neps were lower.

The states of Arizona, California, New Mexico and the far western counties of Texas are included in the Western area. Forty-six spinning lots were tested this season compared to 31 a year ago. These medium staple cottons were longer with the same average micronaire reading. Fiber strength was higher. Sugar tests showed the sugar content to be higher this season. Shirley Analyzer non-lint content was lower. Yarn skein strength averaged higher compared to a year earlier, while appearance grades were also higher. The average number of neps from these Western area cottons increased this season. The average spinning potential was higher.

Group 3 - Long Staple Cottons

Only two samples of long staple cottons were tested this season, and they were both from the Western area. This compared with four lots tested one year ago. Fiber tests showed these two lots to be longer, finer, and stronger than a year earlier. Picker and card waste was lower while yarn skein strength was higher than a year earlier. The average number of yarn neps was lower. The spinning potential was higher.

Group 4 - Extra Long Staple Cottons

One dozen spinning lots were tested this season compared to eleven lots from the 1983 cotton crop. These extra long staple samples were slightly shorter with the same average mike. The maturity ratio was slightly higher, while fiber strength was lower. Non-lint content was 3.1 percent compared to 3.4 percent a year ago. Picker and card waste remained the same as in the previous season. Yarns spun from these American Pima cottons had slightly higher skein strength and appearance grades.

DESCRIPTION OF TABLES

Most of the tables are in two parts located on facing pages. The first page shows fiber measurements and the next, primarily yarn measurements. Using Table 5 as an example, the first spinning lot is from Aquilla, Texas. The fiber measurements are on page 26. The yarn measurements for that same lot are on the following page.

TABLE 1

Shown in Table 1 (page 12) are averages for fiber and processing test results from selected gin points for the 1983 and 1984 cotton crops. These data are grouped by staple and area.

TABLE 2

Table 2 shows the fiber and carded yarn properties by area, staple and state for the 1983 and 1984 crops. The "coarse" and "fine" headings in this table refer to different size yarns according to the staple group.

TABLE 3

Beginning on page 20, Table 3 shows 1984 crop data by staple group, area, grade and staple. For statistical purposes, only grade and staple combinations with three or more lots are reported.

TABLE 4

Table 4 gives fiber and yarn test results by variety from selected gin points. As indicated in the section on sampling procedures, the production areas selected must have at least 70 percent of one particular variety in order to be selected. In some cases a production area will be a 100 percent or "pure" variety gin. Test data for the pure varieties are presented in Table 4 to provide as meaningful information as possible for specific varieties.

TABLES 5 THROUGH 8

These tables show test results on individual spinning lots from each production area. Results on short, medium, long and extra long staple groups are given in Tables 5, 6, 7 and 8, respectively. Spinning results on short staple cottons spun on an open-end spinning frame are shown in Table 5a.

TABLE 9

Table 9 gives the means and standard deviations for all test results by staple group. Data not reported in this summary is indicated by either a blank space or a dash (-) in place of the data. For instance, on page 64 of Table 9 there is no combed yarn data under short or medium staple groups. This summary does not report combed yarn data for these staple groups.

TABLES 10, 10A AND 11

These tables show the results of simple correlation analyses for fiber and processing tests. An explanation of simple correlations is contained in the section on "Description of Statistics Used in Analysis," page 76. To look up a particular correlation, find one of the variables in question in the heading and then read down the left margin until the second variable is located. The simple correlation coefficient is given at the intersection (i.e., the column and row intersection).

TABLES 12, 12A AND 13

A complete explanation of the multiple regression technique is given in the section, "Description of Statistics Used in Analysis," page 76.

Regression equations for estimating spinning performance and yarn quality (dependent variables) from fiber test measurements (independent variables) are shown in Tables 12, 12A and 13. A set of regression statistics were calculated for four groups or combinations of independent variables. These statistics were calculated for each of our eleven dependent variable.

The four groups of independent variables are:

(1) Grade, Staple and Mike.

(2) Grade, UHM Length, M/UHM Uniformity, Micronaire, and HVI 1/8-Inch Gage Strength.

(3) Grayness (Rd), Yellowness (+b), Trash Grade, UHM Length, M/UHM Uniformity, Micronaire, and HVI 1/8-Inch Gage Strength.

(4) Grayness (Rd), Yellowness (+b), Non-lint Content, UHM Length, M/UHM Uniformity, Micronaire, Stelometer 1/8-Inch Gage Strength, Stelometer Elongation, FMT Fineness, FMT Maturity, and Sugar Content.

The statistics needed to predict the total picker and card waste for medium staple cotton from HVI measurements for length, uniformity, strength and mike plus the classer's grade are on page 74. This page shows the regression statistics for both the combination of grade, staple and mike and the combination of grade plus HVI measurements. The statistics for the second combination (grade plus HVI measurements) are on the botton half of the page. Find the column under dependent variables called "Picker and Card Waste" (first column).

The statistics are:

R-Square	0.39
Constant (a)	+17.91
b's for:	
Grade	-0.07
UHM Length	-4.37
M/UHM Uniformity	+0.01
Micronaire	-0.11
HVI 1/8" Gage Strength	-0.01
Standard Error of Estimate	0.96

These statistics give a regression equation of:

$$\left.\begin{matrix}\text{Total}\\ \text{Picker \& Card}\\ \text{Waste}\end{matrix}\right\} = +17.91 - 0.07(\text{Grade}) - 4.37(\text{UHM Length}) + 0.01(\text{M/UHM Uniformity}) - 0.11(\text{Micronaire}) - 0.01(\text{HVI 1/8" Gage Strength})$$

The standard error of the estimate is 0.96 with an R^2 of 0.39. The R^2 indicates that 39 percent of the variation in picker and card waste can be explained by grade and the HVI measurements for length, uniformity, strength and micronaire.

TABLE 14

This table gives the standard machine settings and laboratory atmospheric conditions for each phase of yarn processing used in these tests. The data is grouped by staple lengths.

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TABLE 1.--COTTON, AVERAGE RESULTS OF CLASSIFICATION, FIBER, AND PROCESSING TESTS FROM SELECTED GIN POINTS IN THE UNITED STATES, CROPS OF 1983 AND 1984.

AREA AND CROP YEAR	NO. OF LOTS	FIBER TEST RESULTS												PROCESSING TESTS RESULTS				
		CLASSIFICATION		FIBER LENGTH		MICRONAIRE	HIC-SHIRLEY FINENESS MATURITY		FIBER STRENGTH		S.A. NON-LINT	SUGAR CONTENT	PICKER & CARD WASTE	SKEIN STR. 22s	YARN APPEAR. 22s	YARN NEPS 22s	SPY
		GRADE	STAPLE	HVI UHM	M/UHM UNIF.		FIN.	MAT.	HVI	STEL.*							
	NO.	INDEX	32ND IN.	IN.	PCT.	RDG.	MTEX	RATIO	G/TEX	G/TEX	PCT.	PCT.	PCT.	LBS.	INDEX	NO.	NO.
SHORT STAPLE - AMERICAN UPLAND																	
1983	27	84	31.2	0.95	79	40	157.5	0.923	23.1	21.7	3.7	0.18	7.1	92	101	120	42
1984	35	86	31.3	0.96	79	33	153.1	0.765	24.1	21.7	4.4	0.29	7.6	94	97	122	46
MEDIUM STAPLE - AMERICAN UPLAND																	
SOUTHEAST																	
1983	16	91	34.9	1.08	81	45	180.7	0.981	25.4	23.4	3.0	0.19	6.6	102	99	148	56
1984	22	92	35.5	1.10	80	41	170.7	0.887	25.9	23.5	2.9	0.32	6.3	109	105	123	63
SOUTH CENTRAL																	
1983	48	93	35.0	1.09	81	44	181.2	0.970	25.4	23.6	2.9	0.25	6.7	106	105	99	59
1984	62	87	35.7	1.12	80	41	171.3	0.866	25.4	22.0	3.1	0.23	6.9	97	102	131	53
SOUTHWEST																	
1983	28	85	33.8	1.03	80	41	169.6	0.901	23.9	22.3	3.9	0.22	7.6	98	97	112	50
1984	31	90	32.8	1.02	79	35	156.4	0.807	24.9	22.9	3.9	0.37	7.4	98	104	108	52
WEST																	
1983	31	95	35.7	1.11	81	43	174.1	0.948	27.2	25.4	2.4	0.24	6.0	117	99	150	65
1984	46	99	36.0	1.14	81	43	169.2	0.960	28.9	26.1	2.3	0.34	5.7	121	103	188	69
U. S. AVERAGE MEDIUM STAPLE																	
1983	123	91	34.9	1.08	80	43	176.7	0.950	25.5	23.7	3.0	0.23	6.7	106	101	121	58
1984	161	92	35.2	1.10	80	40	167.7	0.884	26.4	23.6	3.0	0.30	6.6	106	103	142	59

* STELOMETER 1/8-INCH GAGE FIBER STRENGTH RESULTS WERE ADJUSTED TO THE PRESSLEY LEVEL BY THE USE OF CALIBRATION COTTONS.

TABLE 1.--CONTINUED

AREA AND CROP YEAR	NO. OF LOTS	FIBER TEST RESULTS: CLASSIFICATION GRADE	CLASSIFICATION STAPLE	FIBER LENGTH HVI UHM	FIBER LENGTH M/UHM UNIF.	MICRONAIRE	HIC-SHIRLEY FINENESS MATURITY FIN.	HIC-SHIRLEY FINENESS MATURITY MAT.	FIBER STRENGTH HVI	FIBER STRENGTH STEL.*	S.A. NON-LINT	SUGAR CONTENT	PROCESSING TESTS RESULTS: PICKER & CARD WASTE	SKEIN STR. 22s	YARN APPEAR. 22s	YARN NEPS 22s	SPY
	NO.	INDEX	32ND IN.	IN.	PCT.	RDG.	MTEX	RATIO	G/TEX	G/TEX	PCT.	PCT.	PCT.	LBS.	INDEX	NO.	NO.
LONG STAPLE - AMERICAN UPLAND																	
WEST																	
1983	2	90	38.0	1.19	83	41	167.0	0.937	29.0	29.5	5.0	0.27	8.7	145	100	179	99
1984	2	94	37.5	1.17	82	36	139.7	0.895	27.2	26.9	2.4	0.34	7.5	136	100	80	94
U. S. AVERAGE LONG STAPLE																	
1983	4	90	35.8	1.12	81	39	161.2	0.925	26.5	25.8	4.1	0.23	8.2	121	98	126	74
1984	2	94	37.5	1.17	82	36	139.7	0.895	27.2	26.9	2.4	0.34	7.5	136	100	80	94
U.S. UPLAND AVERAGE																	
1983	154	90	34.3	1.06	80	43	172.9	0.945	25.1	23.4	3.2	0.22	6.8	104	101	121	56
1984	198	91	34.6	1.08	80	39	164.9	0.863	26.0	23.3	3.2	0.30	6.8	104	102	138	57
EXTRA LONG STAPLE - AMERICAN PIMA				FIBROGRAPH 2.5% SPAN	FIBROGRAPH 50/2.5 UNIF								50s COMBED YARN DATA				COMBER WASTE (PCT.)
1983	11	4	46.0	1.33	48	41	147.4	0.963	-	34.8	3.4	0.18	7.4	66	118	89	14.0
1984	12	4	46.0	1.32	47	41	153.2	0.972	-	34.1	3.1	0.22	7.4	67	122	88	15.5

* STELOMETER 1/8-INCH GAGE FIBER STRENGTH RESULTS WERE ADJUSTED TO THE PRESSLEY LEVEL BY THE USE OF CALIBRATION COTTONS.

TABLE 2.--COTTON: AVERAGE RESULTS OF CLASSIFICATION, FIBER TESTS, AND CARDED YARN PROCESSING TESTS BY AREA, STAPLE AND STATE FOR AMERICAN UPLAND SAMPLES FROM SELECTED GIN POINTS, CROPS OF 1983 AND 1984.

AREA, STAPLE GROUP, STATE AND CROP YEAR	NO. OF LOTS	CLASSIFICATION		FIBER LENGTH		MICRONAIRE	IIC-SHIRLEY FINENESS/MATURITY		1/8" GAGE STRENGTH		STEL. 1/8" ELONGATION	COLOR OF RAW STOCK			SUGAR CONTENT
		GRADE	STAPLE	HVI UHM	M/UHM UNIF.		FIN.	MAT.	HVI	STEL.		Rd	+b	COLOR CODE	
	NO.	INDEX	32ND IN.	IN.	PCT.	RDG.	MTEX	RATIO	G/TEX	G/TEX	PCT.	PCT.	UNITS	NO.	PCT.
SOUTHEAST															
MEDIUM STAPLE															
ALABAMA															
1983	6	92	34.5	1.07	82	48	191.4	1.012	25.7	23.2	6.5	75.3	8.6	31-3	0.20
1984	8	96	35.5	1.11	80	44	178.7	0.921	26.4	24.0	6.3	77.0	8.5	31-1	0.33
FLORIDA															
1983*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1984	2	94	35.0	1.09	80	43	159.9	0.983	25.2	23.1	6.0	75.8	8.4	31-4	0.35
GEORGIA															
1983	6	90	35.2	1.08	80	45	181.3	0.980	25.8	23.7	5.4	73.1	8.7	41-3	0.17
1984	6	92	35.2	1.08	80	42	172.6	0.877	25.2	23.3	6.1	74.4	8.2	41-3	0.32
NORTH CAROLINA															
1983	2	94	35.5	1.11	81	38	159.2	0.923	24.5	23.5	5.8	73.5	9.0	41-3	0.18
1984	2	87	36.0	1.13	81	37	167.2	0.834	26.3	23.5	6.2	70.0	8.0	51-3	0.34
SOUTH CAROLINA															
1983	2	85	35.0	1.07	80	42	168.4	0.950	24.0	23.0	5.7	70.8	9.5	42-1	0.26
1984	4	84	35.8	1.11	80	38	159.0	0.813	26.4	23.4	6.4	74.0	8.5	41-3	0.27
SOUTH CENTRAL															
MEDIUM STAPLE															
ARKANSAS															
1983	18	92	35.1	1.10	81	45	180.7	0.978	25.7	23.8	5.6	75.2	8.4	31-4	0.27
1984	18	85	36.1	1.13	80	41	173.3	0.866	25.6	22.1	6.1	71.5	8.4	41-4	0.20
LOUISIANA															
1983	6	95	35.2	1.10	81	46	195.2	0.947	25.2	23.8	5.9	77.5	8.1	31-1	0.26
1984	8	90	35.8	1.13	80	42	176.9	0.911	25.6	22.5	5.7	73.3	8.2	41-3	0.26

*NO COMPARABLE DATA.

TABLE 2.--CONTINUED

AREA, STAPLE GROUP, STATE AND CROP YEAR	NO. OF LOTS	SHIRLEY ANALYZER NON-LINT CONTENT: VISIBLE WASTE	SHIRLEY ANALYZER NON-LINT CONTENT: TOTAL WASTE	PICKER & CARD WASTE	YARN PROPERTIES: STRENGTH: COARSE	YARN PROPERTIES: STRENGTH: FINE	YARN PROPERTIES: STRENGTH: BR. FACTOR	YARN PROPERTIES: ELONGATION: COARSE	YARN PROPERTIES: ELONGATION: FINE	YARN PROPERTIES: APPEARANCE: COARSE	YARN PROPERTIES: APPEARANCE: FINE	YARN PROPERTIES: NEPS: COARSE	YARN PROPERTIES: NEPS: FINE	SPY
	NO.	PCT.	PCT.	PCT.	LBS.	LBS.	AVG. NO.	PCT.	PCT.	INDEX	INDEX	NO.	NO.	NO.
SOUTHEAST														
MEDIUM STAPLE														
ALABAMA														
1983	6	2.0	2.8	6.4	100	33	1913	5.7	4.3	100	73	124	569	55
1984	8	1.1	1.9	6.2	108	35	2066	6.5	4.7	105	75	120	867	61
FLORIDA														
1983*	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1984	2	1.9	3.2	6.7	107	35	2040	6.8	5.0	100	70	149	971	60
GEORGIA														
1983	6	2.0	3.0	6.8	102	34	1964	5.6	4.1	100	68	164	589	55
1984	6	2.1	2.9	5.9	108	35	2058	6.3	4.7	108	80	97	749	62
NORTH CAROLINA														
1983	2	1.7	2.6	5.9	109	37	2112	6.0	4.3	95	70	133	491	68
1984	2	3.0	4.2	6.8	116	40	2264	6.9	5.4	100	80	111	603	73
SOUTH CAROLINA														
1983	2	3.1	4.3	7.5	99	32	1884	5.6	4.1	100	60	187	754	52
1984	4	3.0	4.3	6.7	108	36	2088	6.6	4.8	105	73	162	868	65
SOUTH CENTRAL														
MEDIUM STAPLE														
ARKANSAS														
1983	18	2.2	3.0	6.9	108	38	2126	5.8	4.4	104	78	94	471	59
1984	18	1.7	3.1	6.7	95	31	1830	6.0	4.7	102	68	124	1004	53
LOUISIANA														
1983	6	2.1	2.9	6.3	106	36	2056	5.8	4.4	102	68	94	521	58
1984	8	1.7	2.8	6.4	100	33	1915	6.1	4.3	100	68	119	985	56

*NO COMPARABLE DATA.

TABLE 2.-- CONTINUED

AREA, STAPLE GROUP, STATE AND CROP YEAR	NO. OF LOTS	CLASSIFICATION		FIBER LENGTH		MICRONAIRE	IIC-SHIRLEY FINENESS/MATURITY		1/8" GAGE STRENGTH		STEL. 1/8" ELONGATION	COLOR OF RAW STOCK			SUGAR CONTENT
		GRADE	STAPLE	HVI UHM	M/UHM UNIF.		FIN.	MAT.	HVI	STEL.		Rd	+b	COLOR CODE	
	NO.	INDEX	32ND IN.	IN.	PCT.	RDG.	MTEX	RATIO	G/TEX	G/TEX	PCT.	PCT.	UNITS	NO.	PCT.
SOUTH CENTRAL															
MEDIUM STAPLE															
MISSISSIPPI															
1983	18	92	35.2	1.09	81	42	173.6	0.963	25.5	23.7	6.2	75.6	8.3	31-2	0.21
1984	22	86	35.6	1.12	79	39	165.1	0.851	25.0	21.8	6.4	71.7	8.5	41-4	0.26
MISSOURI															
1983*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1984	6	86	36.2	1.12	80	44	179.8	0.902	26.4	23.0	6.0	69.9	8.7	41-4	0.19
TENNESSEE															
1983	6	93	34.2	1.05	81	47	191.6	0.992	24.5	22.8	5.3	75.2	9.0	31-4	0.29
1984	8	87	35.0	1.07	80	39	172.1	0.836	25.5	21.6	6.5	72.1	8.7	41-3	0.19
SOUTHWEST															
SHORT STAPLE															
CENTRAL TEXAS															
1983	4	87	31.0	0.94	79	42	164.8	0.970	21.5	20.3	5.6	71.1	9.8	42-1	0.19
1984	4	96	30.8	0.95	80	42	174.8	0.922	21.4	21.7	6.2	76.2	9.7	21-4	0.38
KANSAS															
1983*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1984	2	68	33.5	1.04	76	28	136.2	0.689	24.0	21.1	5.9	61.7	12.0	54-1	0.33
NORTHWEST TEXAS															
1983	19	84	31.2	0.95	79	40	158.1	0.906	23.6	22.1	6.5	70.9	9.9	42-1	0.18
1984	23	85	31.3	0.96	79	32	149.0	0.728	25.0	22.0	7.1	74.7	8.9	31-4	0.27
OKLAHOMA															
1983	4	82	31.3	0.95	79	39	147.0	0.961	22.5	21.5	5.4	68.5	9.4	42-2	0.18
1984	4	83	31.0	0.96	80	38	165.9	0.812	23.2	20.6	7.0	69.9	9.6	42-1	0.17
SOUTH TEXAS															
1983*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1984	2	100	32.0	1.00	78	35	147.6	0.858	22.1	21.4	6.3	79.1	9.5	11-4	0.48

*NO COMPARABLE DATA.

TABLE 2.--CONTINUED

AREA, STAPLE GROUP, STATE AND CROP YEAR	NO. OF LOTS	SHIRLEY ANALYZER NON-LINT CONTENT		PICKER & CARD WASTE	YARN PROPERTIES									SPY
					STRENGTH			ELONGATION		APPEARANCE		NEPS		
		VISIBLE WASTE	TOTAL WASTE		COARSE	FINE	BR. FACTOR	COARSE	FINE	COARSE	FINE	COARSE	FINE	
	NO.	PCT.	PCT.	PCT.	LBS.	LBS.	AVG. NO.	PCT.	PCT.	INDEX	INDEX	NO.	NO.	NO.
SOUTH CENTRAL														
MEDIUM STAPLE														
MISSISSIPPI														
1983	18	2.0	2.8	6.6	108	37	2108	6.0	4.6	104	73	117	574	63
1984	22	1.9	3.2	7.2	96	30	1813	6.2	4.7	101	66	158	986	53
MISSOURI														
1983*	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1984	6	2.1	3.2	6.9	102	33	1945	6.1	4.6	105	73	108	919	57
TENNESSEE														
1983	6	1.8	2.7	6.8	95	29	1764	5.2	3.8	112	75	63	423	47
1984	8	1.8	3.1	6.9	94	30	1775	6.3	4.5	104	70	104	850	49
SOUTHWEST														
SHORT STAPLE														
CENTRAL TEXAS														
1983	4	2.2	3.5	6.9	281	90	2107	6.9	5.9	105	105	17	104	42
1984	4	1.9	2.7	7.8	303	96	2263	7.1	6.1	115	108	21	79	45
KANSAS														
1983*	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1984	2	4.2	6.6	10.1	268	85	2007	6.6	5.9	80	65	56	446	38
NORTHWEST TEXAS														
1983	19	2.2	3.6	6.9	297	93	2209	7.2	6.4	105	98	25	125	42
1984	23	2.8	4.6	7.3	305	96	2272	8.0	7.0	104	97	21	104	47
OKLAHOMA														
1983	4	2.8	4.4	8.1	285	91	2137	6.9	6.1	110	110	25	110	42
1984	4	2.6	4.5	7.8	288	91	2154	6.9	6.2	98	100	18	127	45
SOUTH TEXAS														
1983*	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1984	2	1.8	2.9	7.2	290	91	2154	7.1	6.3	105	110	23	77	46

*NO COMPARABLE DATA.

TABLE 2.-- CONTINUED

AREA, STAPLE GROUP, STATE AND CROP YEAR	NO. OF LOTS	CLASSIFICATION		FIBER LENGTH		MICRONAIRE	IIC-SHIRLEY FINENESS/MATURITY		1/8" GAGE STRENGTH		STEL. 1/8" ELONGATION	COLOR OF RAW STOCK			SUGAR CONTENT
		GRADE	STAPLE	HVI UHM	M/UHM UNIF.		FIN.	MAT.	HVI	STEL.		Rd	+b	COLOR CODE	
	NO.	INDEX	32ND IN.	IN.	PCT.	RDG.	MTEX	RATIO	G/TEX	G/TEX	PCT.	PCT.	UNITS	NO.	PCT.
SOUTHWEST															
MEDIUM STAPLE															
CENTRAL TEXAS															
1983	2	94	36.0	1.10	81	45	195.3	0.953	23.5	21.5	5.3	76.5	8.4	31-2	0.14
1984	4	99	34.3	1.10	80	43	173.8	0.958	24.6	23.5	6.1	77.4	8.8	31-3	0.35
NORTHWEST TEXAS															
1983	11	80	33.3	1.02	78	36	146.3	0.846	25.2	22.4	6.1	69.9	9.5	42-1	0.18
1984	11	84	32.5	1.00	78	29	146.8	0.684	26.4	23.7	6.9	76.1	8.9	31-3	0.32
OKLAHOMA															
1983	2	80	32.5	0.99	79	34	138.0	0.872	24.0	21.5	6.5	68.3	8.6	51-3	0.19
1984	6	85	32.2	0.99	79	35	154.4	0.806	24.6	21.9	5.9	74.0	9.3	31-4	0.38
SOUTH TEXAS															
1983	13	88	34.0	1.04	80	45	190.2	0.945	22.8	22.4	6.0	74.4	8.5	41-3	0.28
1984	10	96	33.0	1.04	80	37	161.3	0.882	23.6	22.4	6.1	77.8	8.7	31-1	0.42
WEST															
ARIZONA															
1983	10	95	35.6	1.10	80	47	180.7	0.977	25.4	23.6	6.0	77.0	8.9	31-3	0.19
1984	16	98	35.8	1.12	80	46	178.9	0.979	27.6	24.4	6.0	79.7	8.7	21-1	0.31
CALIFORNIA															
1983	21	96	35.7	1.12	81	42	170.9	0.934	28.0	26.3	5.8	77.8	8.6	31-1	0.27
1984	30	100	36.2	1.15	81	42	164.0	0.949	29.5	27.0	5.8	79.1	8.8	21-2	0.35
LONG STAPLE															
NEW MEXICO															
1983	2	90	38.0	1.19	83	41	167.0	0.937	29.0	29.5	6.2	74.3	7.9	41-1	0.27
1984	2	94	37.5	1.17	82	36	139.7	0.895	27.2	26.9	6.5	77.5	7.9	31-2	0.34

TABLE 2.--CONTINUED

AREA, STAPLE GROUP, STATE AND CROP YEAR	NO. OF LOTS	SHIRLEY ANALYZER NON-LINT CONTENT		PICKER & CARD WASTE	YARN PROPERTIES									SPY
					STRENGTH			ELONGATION		APPEARANCE		NEPS		
		VISIBLE WASTE	TOTAL WASTE		COARSE	FINE	BR. FACTOR	COARSE	FINE	COARSE	FINE	COARSE	FINE	
	NO.	PCT.	PCT.	PCT.	LBS.	LBS.	AVG. NO.	PCT.	PCT.	INDEX	INDEX	NO.	NO.	NO.
SOUTHWEST														
MEDIUM STAPLE														
CENTRAL TEXAS														
1983	2	1.4	2.2	6.4	98	32	1866	5.7	4.1	95	70	101	556	56
1984	4	1.3	2.2	5.9	102	33	1953	5.9	4.3	105	75	121	1008	56
NORTHWEST TEXAS														
1983	11	3.0	4.4	8.3	100	32	1907	6.0	4.7	92	69	150	587	47
1984	11	2.8	4.7	7.8	102	33	1960	6.6	5.1	98	66	116	772	53
OKLAHOMA														
1983	2	3.4	4.7	8.3	93	30	1773	6.1	4.3	100	70	89	538	50
1984	6	3.4	5.0	8.5	94	29	1757	6.1	4.7	100	67	112	916	46
SOUTH TEXAS														
1983	13	2.7	3.6	7.1	96	32	1855	5.9	4.4	102	79	85	325	53
1984	10	1.8	3.0	6.9	96	29	1763	5.8	4.2	111	75	91	612	52
WEST														
ARIZONA														
1983	10	1.3	2.5	6.3	102	34	1970	6.0	4.5	100	69	118	589	52
1984	16	1.2	2.4	6.0	108	35	2056	6.0	4.7	108	70	137	1004	55
CALIFORNIA														
1983	21	1.3	2.3	5.8	124	45	2493	6.2	4.9	98	72	165	497	71
1984	30	1.1	2.2	5.6	128	46	2556	6.3	4.9	100	72	216	834	76
LONG STAPLE														
NEW MEXICO														
1983	2	3.8	5.0	8.7	145	53	2920	6.4	5.4	100	80	179	247	99
1984	2	1.5	2.4	7.5	136	48	2684	6.6	5.5	100	70	80	583	94

TABLE 3.--COTTON: AVERAGE RESULTS OF FIBER AND CARDED YARN PROCESSING TESTS BY STAPLE GROUP, AREA, GRADE AND STAPLE FOR AMERICAN UPLAND SAMPLES FROM SELECTED GIN POINTS, CROP OF 1984.

STAPLE GROUP, AREA, GRADE AND STAPLE		NO. OF LOTS	FIBER LENGTH		MICRONAIRE	IIC-SHIRLEY FINENESS/MATURITY		1/8" GAGE STRENGTH		STEL. 1/8" ELONGATION	COLOR OF RAW STOCK			SUGAR CONTENT
			HVI UHM	M/UHM UNIF.		FIN.	MAT.	HVI	STEL.		Rd	+b	COLOR CODE	
NAME	CODE	32ND IN.	NO.	IN.	PCT.	RDG.	MTEX	RATIO	G/TEX	G/TEX	PCT.	PCT.	UNITS	NO.	PCT.
SHORT STAPLE															
SOUTHWEST															
SLM LT SP	42	30	5	0.91	79	33	152.2	0.767	24.5	21.3	7.5	74.4	9.0	31-4	0.19
		31	3	0.95	79	37	169.3	0.841	23.7	21.1	6.5	72.2	9.7	32-2	0.19
LM LT SP	52	31	5	0.95	79	34	155.0	0.771	24.3	21.7	7.1	73.5	8.9	41-3	0.24
MEDIUM STAPLE															
SOUTHEAST															
SLM	41	35	6	1.10	80	42	163.0	0.908	25.7	23.9	6.1	75.5	8.4	31-4	0.35
		36	4	1.12	81	42	175.3	0.893	26.2	24.0	6.1	75.9	8.1	31-2	0.34
SOUTH CENTRAL															
M	31	35	5	1.09	80	43	179.5	0.919	26.0	22.4	6.0	78.1	8.7	21-2	0.35
SLM	41	36	4	1.12	81	44	182.5	0.914	26.7	23.7	5.7	74.1	8.8	31-4	0.23
		37	3	1.15	81	43	178.6	0.892	26.5	23.2	6.0	76.2	8.4	31-4	0.27
SLM LT SP	42	35	5	1.08	80	42	178.9	0.871	24.5	21.0	6.6	71.4	8.6	41-4	0.17
LM LT SP	52	35	14	1.10	79	39	168.8	0.841	25.0	21.2	6.2	69.1	8.4	51-3	0.19
		36	15	1.12	79	39	167.7	0.839	25.1	21.4	6.2	68.3	8.5	51-3	0.20
		37	3	1.15	80	42	162.3	0.910	25.6	22.3	6.5	67.7	8.1	51-3	0.20
SOUTHWEST															
M	31	32	3	1.01	79	35	153.4	0.868	23.3	21.9	6.1	79.6	9.2	21-3	0.45
SLM	41	34	4	1.06	80	40	169.0	0.888	24.6	22.0	5.9	74.7	8.6	31-4	0.34
LM LT SP	52	31	3	0.94	78	31	140.1	0.761	24.1	21.4	6.2	74.8	9.0	31-4	0.34
WEST															
M	31	35	6	1.09	81	49	184.0	1.029	27.0	24.6	6.0	79.3	8.5	21-2	0.24
		36	24	1.14	81	42	166.3	0.936	29.3	26.4	5.9	79.6	8.8	21-1	0.35
		37	8	1.15	82	43	162.2	0.966	29.8	27.3	5.8	79.0	8.8	21-2	0.39
SLM	41	36	6	1.14	81	46	174.4	0.979	27.4	24.6	5.8	78.3	8.9	21-4	0.33

TABLE 3.--CONTINUED

STAPLE GROUP, AREA, GRADE AND STAPLE			NO. OF LOTS	SHIRLEY ANALYZER NON-LINT CONTENT		PICKER & CARD WASTE	YARN PROPERTIES									SPY
							STRENGTH			ELONGATION		APPEARANCE		NEPS		
				VISIBLE WASTE	TOTAL WASTE		COARSE	FINE	BR. FACTOR	COARSE	FINE	COARSE	FINE	COARSE	FINE	
NAME	CODE	32ND IN.	NO.	PCT.	PCT.	PCT.	LBS.	LBS.	AVG. NO.	PCT.	PCT.	INDEX	INDEX	NO.	NO.	NO.
SHORT STAPLE																
SOUTHWEST																
SLM LT SP	42	30	5	1.7	3.4	6.4	295	93	2206	7.6	6.7	106	96	29	119	45
		31	3	2.1	3.4	7.0	290	92	2176	7.3	6.6	110	103	16	84	45
LM LT SP	52	31	5	2.7	4.3	7.7	301	95	2253	7.6	6.8	98	98	21	114	49
MEDIUM STAPLE																
SOUTHEAST																
SLM	41	35	6	1.9	2.8	6.1	109	36	2094	6.7	4.9	108	77	136	886	64
		36	4	1.8	2.9	6.1	111	36	2125	6.6	5.0	100	80	111	743	66
SOUTH CENTRAL																
M	31	35	5	1.2	2.2	6.3	100	31	1874	5.9	4.4	106	64	197	1000	50
SLM	41	36	4	1.8	2.7	6.4	107	35	2056	6.4	4.8	105	75	145	817	62
		37	3	2.2	3.3	6.7	104	34	2002	6.2	4.7	100	70	165	1012	59
SLM LT SP	42	35	5	1.4	2.8	6.2	90	29	1712	6.2	4.6	104	70	87	849	47
LM LT SP	52	35	14	2.0	3.6	7.4	90	29	1697	6.0	4.7	102	65	151	976	49
		36	15	2.0	3.4	7.0	94	30	1788	6.0	4.5	99	67	130	1131	53
		37	3	2.1	3.3	9.5	96	31	1827	6.3	4.4	107	70	93	1115	55
SOUTHWEST																
M	31	32	3	1.4	2.5	6.7	88	24	1576	5.7	3.8	110	70	70	620	47
SLM	41	34	4	2.4	3.9	7.6	96	30	1791	6.0	4.4	105	73	128	1073	49
LM LT SP	52	31	3	3.4	5.1	8.6	93	28	1731	6.1	4.8	97	67	93	683	45
WEST																
M	31	35	6	1.0	2.0	6.1	105	33	1970	5.5	4.2	105	67	177	1226	52
		36	24	1.1	2.3	5.7	123	43	2419	6.4	4.9	102	71	187	867	71
		37	8	1.1	2.2	5.2	135	49	2716	6.4	5.1	99	73	246	725	78
SLM	41	36	6	1.7	2.9	6.2	111	38	2165	6.0	4.7	108	73	133	911	62

TABLE 4.--COTTON: AVERAGE OF CLASSIFICATION, FIBER TESTS, AND YARN PROCESSING TESTS BY STAPLE GROUP, VARIETY AND STATE FOR SAMPLES FROM SELECTED 100 PERCENT ONE-VARIETY GIN POINTS, CROP OF 1984.

STAPLE GROUP, VARIETY, AND STATE	NO. OF LOTS	CLASSIFICATION		FIBER LENGTH		MICRONAIRE	IIC-SHIRLEY FINENESS/MATURITY		1/8" GAGE STRENGTH		STEL. 1/8" ELONGATION	COLOR OF RAW STOCK			SUGAR CONTENT
		GRADE	STAPLE	HVI UHM	M/UHM UNIF.		FIN.	MAT.	HVI	STEL.		Rd	+b	COLOR CODE	
	NO.	INDEX	32ND IN.	IN.	PCT.	RDG.	MTEX	RATIO	G/TEX	G/TEX	PCT.	PCT.	UNITS	NO.	PCT.
MEDIUM STAPLE															
ACALA SJ-2 CALIFORNIA	14	100	36.1	1.15	81	41	165.5	0.914	29.6	26.8	5.9	78.9	9.0	21-2	0.36
ACALA SJ-5 CALIFORNIA	2	100	37.0	1.15	81	43	160.8	0.958	29.5	26.9	5.5	77.8	8.7	31-1	0.35
ACALA SJC-1 CALIFORNIA	6	100	36.2	1.15	82	40	153.6	0.962	30.9	27.9	6.0	79.8	8.8	21-1	0.37
COKER 315 SOUTH CAROLINA	2	83	35.5	1.13	80	37	158.8	0.787	26.6	23.4	6.4	74.2	8.7	31-4	0.33
DELTAPINE NSL MISSISSIPPI	2	80	35.5	1.13	81	40	168.1	0.843	25.0	21.5	7.4	70.3	8.8	41-4	0.20
DELTAPINE 120 ARIZONA	2	100	35.0	1.06	81	49	186.7	0.999	26.2	24.5	6.4	79.9	8.4	21-2	0.26
DELTAPINE 150 MISSISSIPPI	2	92	35.5	1.13	80	42	173.3	0.871	24.3	21.9	7.5	73.5	8.5	41-3	0.30
DELTAPINE 41 ARKANSAS	2	80	36.0	1.12	78	34	154.1	0.790	23.8	21.4	6.1	68.8	8.9	42-2	0.23
MISSISSIPPI	2	85	36.0	1.11	78	34	136.3	0.759	24.1	22.0	6.2	72.7	8.4	41-3	0.27
DELTAPINE 61 ARKANSAS	2	80	36.0	1.15	80	40	170.7	0.843	25.8	21.9	5.8	70.4	8.0	41-4	0.24
DELTAPINE 90 ALABAMA	2	92	35.0	1.09	80	43	171.5	0.907	27.2	24.6	6.5	72.5	8.3	41-3	0.29
DES 422 MISSISSIPPI	2	80	35.5	1.15	80	38	159.8	0.820	24.4	21.2	6.3	67.3	8.4	51-3	0.19

TABLE 4.--CONTINUED

STAPLE GROUP, VARIETY, AND STATE	NO. OF LOTS	SHIRLEY ANALYZER NON-LINT CONTENT		PICKER & CARD WASTE	YARN PROPERTIES									SPY
					STRENGTH			ELONGATION		APPEARANCE		NEPS		
		VISIBLE WASTE	TOTAL WASTE		COARSE	FINE	BR. FACTOR	COARSE	FINE	COARSE	FINE	COARSE	FINE	
	NO.	PCT.	PCT.	PCT.	LBS.	LBS.	AVG. NO.	PCT.	PCT.	INDEX	INDEX	NO.	NO.	NO.
MEDIUM STAPLE														
ACALA SJ-2 CALIFORNIA	14	1.1	2.0	5.5	126	45	2500	6.4	5.0	101	71	194	812	74
ACALA SJ-5 CALIFORNIA	2	1.1	2.0	5.4	133	47	2620	6.2	5.1	100	75	215	795	75
ACALA SJC-1 CALIFORNIA	6	1.3	2.6	5.5	138	51	2787	6.6	5.2	97	72	212	652	86
COKER 315 SOUTH CAROLINA	2	3.7	4.8	7.3	106	36	2054	6.7	5.0	105	65	212	1030	65
DELTAPINE NSL MISSISSIPPI	2	2.1	3.5	6.5	96	31	1826	6.7	4.9	100	65	143	1028	57
DELTAPINE 120 ARIZONA	2	0.9	1.9	6.2	103	32	1928	5.8	4.8	100	65	139	1036	49
DELTAPINE 150 MISSISSIPPI	2	1.0	2.1	5.7	98	31	1853	6.6	5.0	115	75	107	687	56
DELTAPINE 41 ARKANSAS	2	1.6	3.5	6.7	90	29	1703	5.8	4.2	95	60	146	1571	52
MISSISSIPPI	2	1.4	2.5	6.3	101	32	1906	6.4	4.9	95	65	108	1135	56
DELTAPINE 61 ARKANSAS	2	2.5	3.7	7.9	93	31	1793	6.1	4.8	95	60	155	1122	51
DELTAPINE 90 ALABAMA	2	1.4	2.4	5.7	112	37	2139	6.3	4.9	110	75	85	777	64
DES 422 MISSISSIPPI	2	2.6	4.4	8.4	93	30	1761	6.3	4.7	100	60	314	1172	53

TABLE 4.-- CONTINUED

STAPLE GROUP, VARIETY, AND STATE	NO. OF LOTS	CLASSIFICATION		FIBER LENGTH		MICRO-NAIRE	IIC-SHIRLEY FINENESS/MATURITY		1/8" GAGE STRENGTH		STEL. 1/8" ELON-GATION	COLOR OF RAW STOCK			SUGAR CONTENT
		GRADE	STAPLE	HVI UHM	M/UHM UNIF.		FIN.	MAT.	HVI	STEL.		Rd	+b	COLOR CODE	
	NO.	INDEX	32ND IN.	IN.	PCT.	RDG.	MTEX	RATIO	G/TEX	G/TEX	PCT.	PCT.	UNITS	NO.	PCT.
MEDIUM STAPLE															
DUNN 120															
NORTHWEST TEXAS	1	89	30.0	0.93	78	29	137.1	0.735	26.0	22.9	6.5	77.3	9.0	31-3	0.24
GC-510															
CALIFORNIA	2	100	37.0	1.17	83	44	159.6	1.006	30.1	27.9	5.8	80.0	8.5	21-1	0.42
PAYMASTER 404															
NORTHWEST TEXAS	2	85	33.0	1.02	80	31	141.7	0.744	25.8	23.9	6.9	75.8	8.6	31-4	0.39
STONEVILLE 506															
ARKANSAS	2	89	36.5	1.15	80	40	173.0	0.850	24.9	22.1	6.5	71.6	8.6	41-3	0.20
MISSISSIPPI	2	80	36.0	1.13	78	36	159.0	0.774	26.3	21.3	6.6	67.0	8.2	51-3	0.20
TENNESSEE	2	89	35.0	1.10	80	43	183.4	0.884	25.3	21.9	6.1	70.7	8.9	41-4	0.18
STONEVILLE 825															
CENTRAL TEXAS	2	97	34.0	1.06	80	42	174.0	0.927	23.6	22.4	5.7	75.9	8.6	31-4	0.31
LOUISIANA	4	92	35.0	1.11	80	44	182.3	0.919	24.8	21.7	5.7	73.0	8.2	41-3	0.25
MISSISSIPPI	4	92	36.0	1.13	80	43	180.0	0.904	25.3	21.9	5.8	74.2	8.5	41-3	0.29
SOUTH TEXAS	2	88	35.0	1.14	81	43	180.4	0.904	24.8	22.8	6.1	75.5	8.0	41-1	0.32
LONG STAPLE															
ACALA 1517-75															
NEW MEXICO	2	94	37.5	1.17	82	36	139.7	0.895	27.2	26.9	6.5	77.5	7.9	31-2	0.34

TABLE 4.--CONTINUED

STAPLE GROUP, VARIETY, AND STATE	NO. OF LOTS	SHIRLEY ANALYZER NON-LINT CONTENT		PICKER & CARD WASTE	YARN PROPERTIES									SPY
					STRENGTH			ELONGATION		APPEARANCE		NEPS		
		VISIBLE WASTE	TOTAL WASTE		COARSE	FINE	BR. FACTOR	COARSE	FINE	COARSE	FINE	COARSE	FINE	
	NO.	PCT.	PCT.	PCT.	LBS.	LBS.	AVG. NO.	PCT.	PCT.	INDEX	INDEX	NO.	NO.	NO.
MEDIUM STAPLE														
DUNN 120														
NORTHWEST TEXAS	1	1.2	3.1	6.3	103	33	1958	6.8	5.0	100	70	70	526	52
GC-510														
CALIFORNIA	2	1.0	2.4	5.2	140	53	2853	6.7	5.2	100	75	367	786	83
PAYMASTER 404														
NORTHWEST TEXAS	2	3.3	4.9	8.0	103	33	1953	6.8	4.8	100	60	139	885	53
STONEVILLE 506														
ARKANSAS	2	1.4	2.8	6.0	99	32	1884	6.3	4.9	115	75	86	776	57
MISSISSIPPI	2	2.3	4.3	7.3	94	30	1772	5.9	5.0	95	70	108	910	50
TENNESSEE	2	1.7	3.1	6.4	92	30	1757	6.1	4.3	110	75	59	726	50
STONEVILLE 825														
CENTRAL TEXAS	2	1.4	2.3	6.1	93	29	1743	5.5	4.0	105	75	131	1077	51
LOUISIANA	4	1.7	3.0	6.8	94	29	1768	5.9	4.1	98	65	135	1061	51
MISSISSIPPI	4	1.6	2.8	6.6	97	31	1839	6.1	4.4	100	65	194	1089	54
SOUTH TEXAS	2	2.8	3.9	7.5	102	34	1972	5.8	4.2	110	80	92	761	59
LONG STAPLE														
ACALA 1517-75														
NEW MEXICO	2	1.5	2.4	7.5	136	48	2684	6.6	5.5	100	70	80	583	94

TABLE 5.--COTTON: AMERICAN UPLAND SHORT STAPLE: QUALITY CHARACTERISTICS BY PRODUCTION AREA AND CLASSIFACATION, CROP OF 1984.

PRODUCTION AREA AND CLASSIFICATION			FIBER LENGTH		MICRONAIRE	IIC-SHIRLEY FINENESS/MATURITY		1/8" GAGE STRENGTH		STEL. 1/8" ELONGATION	COLOR OF RAW STOCK			SUGAR CONTENT
GRADE	STAPLE		HVI UHM	M/UHM UNIF.		FIN.	MAT.	HVI	STEL.		Rd	+b	COLOR CODE	
NO.-NAME-CODE	32ND IN.		IN.	PCT.	RDG.	MTEX	RATIO	G/TEX	G/TEX	PCT.	PCT.	UNITS	NO.	PCT.
SOUTHWEST														
CENTRAL TEXAS														
AQUILLA		GP 3774				90 PERCENT								
1 SLM	41	30	0.93	79	36	148.2	0.854	19.4	21.5	5.3	77.5	8.9	21-4	0.38
2 SLM PLUS	40	31	0.93	79	40	168.1	0.936	21.2	20.6	6.6	77.3	9.8	21-3	0.35
MALONE		LANKART LX-571				95 PERCENT								
1 M LT SP	32	31	0.97	80	46	187.6	0.945	21.8	22.6	6.0	75.0	9.7	31-3	0.50
2 M LT SP	32	31	0.97	80	46	195.1	0.953	23.0	22.0	6.7	75.0	10.4	22-2	0.30
KANSAS														
STERLING		CASCOT C-13				70 PERCENT								
1 LM TG	54	34	1.04	76	26	138.5	0.673	24.4	21.2	5.7	63.5	11.6	43-4	0.35
2 LM TG	54*	33	1.03	76	29	133.8	0.705	23.6	21.0	6.0	59.8	12.4	54-1	0.30
NORTHWEST TEXAS														
BOVINA		PAYMASTER 792				85 PERCENT								
1 SGO LT SP	62**	33	1.00	79	25	130.9	0.612	24.0	21.8	6.9	75.0	8.5	31-4	0.34
2 SGO LT SP	62** ***	33	1.00	78	25	132.2	0.588	27.8	24.4	7.4	73.0	8.9	41-3	0.37
BULA		TAMCOT SP-21				80 PERCENT								
1 LM	51	32	0.99	79	31	145.0	0.705	25.2	24.2	7.2	76.0	8.4	31-2	0.43
2 LM LT SP	52#	31	0.94	77	26	127.6	0.644	22.6	23.3	7.1	76.0	8.9	31-3	0.34
COTTON CENTER		GSA-71				70 PERCENT								
1 SLM	41	33	1.03	79	28	145.7	0.703	26.6	23.5	6.8	78.2	8.6	21-2	0.39
2 LM LT SP	52#	33	1.02	79	31	146.0	0.717	26.0	22.6	6.8	75.5	9.4	31-3	0.32

*REDUCED FROM 44 BECAUSE OF BARK.
**REDUCED FROM 52 BECAUSE OF BARK.
***AVERAGING RULE USED.
#REDUCED FROM 42 BECAUSE OF BARK.

TABLE 5.--CONTINUED

PRODUCTION AREA AND CLASSIFICATION			SHIRLEY ANALYZER NON-LINT CONTENT		PICKER & CARD WASTE	YARN PROPERTIES									SPY
						STRENGTH			ELONGATION		APPEARANCE		NEPS		
GRADE	STAPLE		VISIBLE WASTE	TOTAL WASTE		8s	22s	BR. FACTOR	8s	22s	8s	22s	8s	22s	
NO.-NAME-CODE	32ND IN.		PCT.	PCT.	PCT.	LBS.	LBS.	AVG. NO.	PCT.	PCT.	INDEX	INDEX	NO.	NO.	NO.
SOUTHWEST															
CENTRAL TEXAS															
AQUILLA			GP 3774				90 PERCENT								
1 SLM	41	30	2.6	3.8	7.4	302	96	2264	7.0	6.4	110	100	26	101	42
2 SLM PLUS	40	31	2.2	3.1	11.3	299	94	2230	7.2	6.0	120	110	28	113	45
MALONE			LANKART LX-571				95 PERCENT								
1 M LT SP	32	31	1.6	2.3	6.1	305	95	2265	7.1	6.0	100	100	17	26	45
2 M LT SP	32	31	1.1	1.5	6.4	306	97	2291	7.0	6.0	130	120	12	75	49
KANSAS															
STERLING			CASCOT C-13				70 PERCENT								
1 LM TG	54	34	4.1	6.9	10.0	278	90	2102	6.8	6.0	80	70	51	315	43
2 LM TG	54*	33	4.3	6.2	10.2	258	80	1912	6.3	5.8	80	60	61	577	33
NORTHWEST TEXAS															
BOVINA			PAYMASTER 792				85 PERCENT								
1 SGO LT SP	62**	33	6.1	8.2	10.7	322	102	2410	8.4	7.5	100	90	28	158	43
2 SGO LT SP	62** ***	33	6.7	8.4	11.2	330	104	2464	8.2	7.7	100	90	4	162	51
BULA			TAMCOT SP-21				80 PERCENT								
1 LM	51	32	5.2	6.8	8.0	328	101	2423	8.5	7.0	100	100	18	159	54
2 LM LT SP	52#	31	3.5	4.8	8.9	316	99	2353	8.0	7.6	100	90	30	122	51
COTTON CENTER			GSA-71				70 PERCENT								
1 SLM	41	33	1.7	3.0	5.7	331	102	2446	9.0	7.7	100	100	14	75	58
2 LM LT SP	52#	33	2.3	4.2	7.0	324	100	2396	8.5	8.2	100	100	2	71	52

*REDUCED FROM 44 BECAUSE OF BARK.
**REDUCED FROM 52 BECAUSE OF BARK.
***AVERAGING RULE USED.
#REDUCED FROM 42 BECAUSE OF BARK.

TABLE 5.--CONTINUED

PRODUCTION AREA AND CLASSIFICATION			FIBER LENGTH		MICRONAIRE	HIC-SHIRLEY FINENESS/MATURITY		1/8" GAGE STRENGTH		STEL. 1/8" ELONGATION	COLOR OF RAW STOCK			SUGAR CONTENT
GRADE	: STAPLE		HVI UHM	: M/UHM : UNIF.		FIN.	: MAT.	HVI	STEL.		Rd	: +b	: COLOR CODE	
NO.-NAME-CODE	32ND IN.		IN.	PCT.	RDG.	MTEX	RATIO	G/TEX	G/TEX	PCT.	PCT.	UNITS	NO.	PCT.
SOUTHWEST														
NORTHWEST TEXAS														
LAMESA			TAMCOT SP-21				75 PERCENT							
2 LM	51*	31	0.96	77	25	122.8	0.673	25.2	22.4	7.8	73.0	8.4	41-3	0.24
LEVELLAND			GSA-71				85 PERCENT							
1 SLM	41	32	0.98	79	31	150.7	0.723	27.0	23.3	6.9	76.7	8.8	31-3	0.37
2 LM LT SP	52	31	0.95	78	32	150.5	0.711	26.8	21.6	7.0	78.0	8.6	31-1	0.29
MILES			GP 3774				80 PERCENT							
1 SLM LT SP	42	31	0.92	78	38	162.7	0.876	23.2	20.2	6.3	71.0	9.9	42-1	0.22
2 LM LT SP	52**	31	0.98	79	41	174.9	0.863	24.8	21.6	7.0	73.3	8.6	41-3	0.20
NEWCASTLE			LANKART 57				85 PERCENT							
1 LM LT SP	52**	30	0.92	80	40	171.4	0.798	24.6	20.5	7.2	71.7	9.4	42-1	0.16
2 LM LT SP	52**	29	0.87	79	41	183.5	0.805	20.0	18.7	6.7	70.5	9.6	42-1	0.14
STAMFORD			LANKART LX-571				85 PERCENT							
1 SLM LT SP	42	31	0.97	79	35	174.6	0.836	25.4	22.0	6.7	72.7	9.1	41-3	0.16
2 SLM LT SP	42	30	0.89	78	38	170.3	0.822	23.6	20.4	7.1	73.5	9.0	31-4	0.17
STAMFORD			LANKART 611				97 PERCENT							
1 SLM LT SP	42	30	0.90	79	36	171.2	0.820	24.2	20.8	7.7	74.2	8.5	41-3	0.18
2 SLM LT SP	42	30	0.92	80	35	156.3	0.780	26.2	21.4	7.9	74.0	9.5	31-3	0.15
STANTON			TAMCOT SP-21				75 PERCENT							
1 SLM LT SP	42	30	0.90	79	36	171.2	0.820	24.2	20.8	7.7	74.2	8.5	41-3	0.18
2 SLM LT SP	42	30	0.92	80	35	156.3	0.780	26.2	21.4	7.9	74.0	9.5	31-3	0.15

*REDUCED FROM 41 BECAUSE OF BARK.
**REDUCED FROM 42 BECAUSE OF BARK.

TABLE 5.--CONTINUED

PRODUCTION AREA AND CLASSIFICATION		SHIRLEY ANALYZER NON-LINT CONTENT		PICKER & CARD WASTE	YARN PROPERTIES									
					STRENGTH			ELONGATION		APPEARANCE		NEPS		SPY
GRADE	STAPLE	VISIBLE WASTE	TOTAL WASTE		8s	22s	BR. FACTOR	8s	22s	8s	22s	8s	22s	
NO.-NAME-CODE	32ND IN.	PCT.	PCT.	PCT.	LBS.	LBS.	AVG. NO.	PCT.	PCT.	INDEX	INDEX	NO.	NO.	NO.
SOUTHWEST														
NORTHWEST TEXAS														
LAMESA		TAMCOT SP-21				75 PERCENT								
2 LM	51*	31	2.3	4.5	7.7	300	94	2234	7.8	7.0	100	90	30	114	52
LEVELLAND		GSA-71				85 PERCENT								
1 SLM	41	32	2.7	4.4	6.5	321	98	2362	8.0	7.2	100	100	20	115	52
2 LM LT SP	52	31	2.4	4.2	6.6	311	96	2300	8.2	7.7	100	100	31	68	50
MILES		GP 3774				80 PERCENT								
1 SLM LT SP	42	31	2.9	4.0	6.7	277	88	2076	7.0	6.5	120	100	17	70	40
2 LM LT SP	52**	31	1.3	2.5	7.4	297	97	2255	8.0	6.5	100	100	14	78	50
NEWCASTLE		LANKART 57				85 PERCENT								
1 LM LT SP	52**	30	3.4	5.2	7.5	288	89	2131	7.2	6.5	110	90	21	54	41
2 LM LT SP	52**	29	2.4	5.2	7.4	264	80	1936	6.6	5.9	110	100	18	123	34
STAMFORD		LANKART LX-571				85 PERCENT								
1 SLM LT SP	42	31	1.8	3.0	6.0	297	95	2233	7.5	6.7	110	110	15	81	46
2 SLM LT SP	42	30	1.4	2.1	6.1	290	90	2150	7.4	6.5	110	100	39	80	43
STAMFORD		LANKART 611				97 PERCENT								
1 SLM LT SP	42	30	1.8	3.5	6.9	295	89	2159	7.2	6.6	110	100	31	150	43
2 SLM LT SP	42	30	1.7	3.5	6.7	290	90	2150	7.8	6.2	110	100	29	122	42
STANTON		TAMCOT SP-21				75 PERCENT								
1 SLM LT SP	42	30	1.4	3.1	5.9	306	101	2335	7.5	7.0	100	90	19	117	42
2 SLM LT SP	42	30	2.0	4.7	6.3	295	96	2236	8.2	7.2	100	90	29	128	53

*REDUCED FROM 41 BECAUSE OF BARK.
**REDUCED FROM 42 BECAUSE OF BARK.

TABLE 5.--CONTINUED

PRODUCTION AREA AND CLASSIFICATION			FIBER LENGTH		MICRONAIRE	HIC-SHIRLEY FINENESS/MATURITY		1/8" GAGE STRENGTH		STEL. 1/8" ELONGATION	COLOR OF RAW STOCK			SUGAR CONTENT
GRADE	STAPLE		HVI UHM	M/UHM UNIF.		FIN.	MAT.	HVI	STEL.		Rd	+b	COLOR CODE	
NO.-NAME-CODE	32ND IN.		IN.	PCT.	RDG.	MTEX	RATIO	G/TEX	G/TEX	PCT.	PCT.	UNITS	NO.	PCT.
SOUTHWEST														
NORTHWEST TEXAS														
SUDAN		QUAPAW				90 PERCENT								
1 SLM	41	33	0.98	78	25	128.6	0.633	25.8	22.0	6.6	78.0	8.4	31-1	0.38
2 LM	51*	31	0.96	78	28	134.5	0.685	27.2	23.7	7.0	75.5	8.0	41-1	0.33
TULIA		GSA-71				80 PERCENT								
1 SLM	41	31	0.94	79	33	152.9	0.751	23.2	20.4	6.6	77.2	8.8	31-3	0.34
2 LM LT SP	52**	33	1.00	78	26	131.7	0.584	26.6	23.3	8.1	75.0	8.8	31-4	0.31
OKLAHOMA														
BRAY		LANKART 57				80 PERCENT								
1 SLM LT SP	42	31	0.95	80	38	170.6	0.811	22.6	21.0	6.6	72.8	10.0	32-2	0.19
2 SLM SP	43	31	0.98	79	40	170.8	0.802	22.8	19.5	6.8	66.3	10.1	43-2	0.12
TEMPLE		LANKART 611				90 PERCENT								
1 LM LT SP	52**	31	0.96	79	36	166.4	0.798	24.8	21.0	7.1	70.2	9.1	42-1	0.21
2 LM LT SP	52**	31	0.94	80	37	155.8	0.837	22.6	21.0	7.4	70.2	9.2	42-1	0.15
SOUTH TEXAS														
CORPUS CHRISTI		CASCOT C-13				70 PERCENT								
1 M	31	32	0.99	77	36	147.5	0.873	22.2	21.1	6.6	79.3	9.6	11-4	0.41
2 M	31	32	1.01	78	34	147.6	0.843	22.0	21.6	6.0	78.8	9.3	21-3	0.54

*AVERAGING RULE USED.
**REDUCED FROM 42 BECAUSE OF BARK.

TABLE 5.--CONTINUED

PRODUCTION AREA AND CLASSIFICATION			SHIRLEY ANALYZER NON-LINT CONTENT		PICKER & CARD WASTE	YARN PROPERTIES										SPY
						STRENGTH			ELONGATION		APPEARANCE		NEPS			
CRADE	STAPLE		VISIBLE WASTE	TOTAL WASTE		8s	22s	BR. FACTOR	8s	22s	8s	22s	8s	22s		
NO.-NAME-CODE	32ND IN.		PCT.	PCT.	PCT.	LBS.	LBS.	AVG. NO.	PCT.	PCT.	INDEX	INDEX	NO.	NO.		NO.
SOUTHWEST																
NORTHWEST TEXAS																
SUDAN			QUAPAW				90 PERCENT									
1 SLM	41	33	2.4	4.9	6.1	317	102	2390	8.6	6.8	100	100	15	95		50
2 LM	51*	31	3.3	5.1	8.0	301	96	2260	8.2	7.0	100	100	18	88		47
TULIA			GSA-71				80 PERCENT									
1 SLM	41	31	2.3	3.9	6.7	294	95	2221	8.4	7.0	110	100	10	75		45
2 LM LT SP	52**	33	3.6	6.1	8.0	318	97	2339	9.6	7.8	100	90	24	87		52
OKLAHOMA																
BRAY			LANKART 57				80 PERCENT									
1 SLM LT SP	42	31	1.7	3.1	8.4	296	94	2218	7.4	6.5	100	100	16	101		48
2 SLM SP	43	31	2.3	4.6	7.0	273	86	2038	6.5	6.0	100	100	24	106		39
TEMPLE			LANKART 611				90 PERCENT									
1 LM LT SP	52**	31	3.3	5.2	7.5	289	92	2168	6.8	6.0	90	100	19	151		45
2 LM LT SP	52**	31	3.1	4.9	8.2	292	93	2191	7.0	6.1	100	100	12	151		47
SOUTH TEXAS																
CORPUS CHRISTI			CASCOT C-13				70 PERCENT									
1 M	31	32	1.6	2.7	6.1	280	84	2044	6.7	5.9	110	110	32	80		42
2 M	31	32	1.9	3.1	8.3	299	97	2263	7.5	6.6	100	110	13	73		49

*AVERAGING RULE USED.
**REDUCED FROM 42 BECAUSE OF BARK.

TABLE 5A.--COTTON, AMERICAN UPLAND SHORT STAPLE: QUALITY CHARACTERISTICS OF OPEN-END SPUN YARN BY PRODUCTION AREA AND CLASSIFACATION, CROP OF 1984.

PRODUCTION AREA AND CLASSIFICATION				PROCESSING TEST RESULTS - CARDED OPEN-END YARN				
				YARN SKEIN STRENGTH		ELONGATION	APPEARANCE INDEX	NEPS PER 1000 YARDS
NO.	NAME	CODE	STAPLE	8s	BREAK FACTOR	8s	8s	8s
			32ND	LBS.	NO.	PCT.	NO.	NO.
	SOUTHWEST							
	CENTRAL TEXAS							
	AQUILLA			GP 3774		90 PERCENT		
1	SLM	41	30	250	2000	7.0	110	0
2	SLM PLUS	40	31	248	1984	7.4	110	0
	MALONE			LANKART LX-571		95 PERCENT		
1	M LT SP	32	31	236	1888	6.9	120	6
2	M LT SP	32	31	238	1904	7.0	120	0
	KANSAS							
	STERLING			CASCOT C-13		70 PERCENT		
1	LM TG	54	34	230	1840	7.0	100	2
2	LM TG	54*	33	**	**	**	**	**
	NORTHWEST TEXAS							
	BOVINA			PAYMASTER 792		85 PERCENT		
1	SGO LT SP	62***	33	266	2128	8.2	100	2
2	SGO LT SP	62***	33	275	2200	7.8	110	4
		#						
	BULA			TAMCOT SP-21		80 PERCENT		
1	LM	51	32	265	2120	8.0	110	5
2	LM LT SP	52##	31	254	2032	8.0	90	1
	COTTON CENTER			GSA-71		70 PERCENT		
1	SLM	41	33	267	2136	7.6	110	0
2	LM LT SP	52##	33	260	2080	8.1	100	1

*REDUCED FROM 44 BECAUSE OF BARK.
**INSUFFICIENT COTTON FOR OPEN-END SPINNING TESTS.
***REDUCED FROM 52 BECAUSE OF BARK.
#AVERAGING RULE USED.
##REDUCED FROM 42 BECAUSE OF BARK.

TABLE 5A.-- CONTINUED

PRODUCTION AREA AND CLASSIFICATION				PROCESSING TEST RESULTS - CARDED OPEN-END YARN				
				YARN SKEIN STRENGTH		ELONGATION	APPEARANCE INDEX	NEPS PER 1000 YARDS
NO.	NAME	CODE	STAPLE	8s	BREAK FACTOR	8s	8s	8s
			32ND	LBS.	NO.	PCT.	NO.	NO.
	SOUTHWEST							
	NORTHWEST TEXAS							
	LAMESA			TAMCOT SP-21		75 PERCENT		
2	LM	51*	31	255	2040	8.2	100	5
	LEVELLAND			GSA-71		85 PERCENT		
1	SLM	41	32	261	2088	7.8	110	16
2	LM LT SP	52	31	256	2048	8.4	90	3
	MILES			GP 3774		80 PERCENT		
1	SLM LT SP	42	31	238	1904	7.3	110	0
2	LM LT SP	52**	31	244	1952	7.6	100	0
	NEWCASTLE			LANKART 57		85 PERCENT		
1	LM LT SP	52**	30	228	1824	7.3	120	6
2	LM LT SP	52**	29	205	1640	6.7	110	3
	STAMFORD			LANKART LX-571		85 PERCENT		
1	SLM LT SP	42	31	246	1968	6.5	110	4
2	SLM LT SP	42	30	235	1880	6.7	110	11
	STAMFORD			LANKART 611		97 PERCENT		
1	SLM LT SP	42	30	236	1888	7.7	100	4
2	SLM LT SP	42	30	236	1888	7.8	110	4
	STANTON			TAMCOT SP-21		75 PERCENT		
1	SLM LT SP	42	30	261	2088	7.5	100	5
2	SLM LT SP	42	30	246	1968	8.5	100	1

*REDUCED FROM 41 BECAUSE OF BARK.
**REDUCED FROM 42 BECAUSE OF BARK.

TABLE 5A.--CONTINUED

PRODUCTION AREA AND CLASSIFICATION				PROCESSING TEST RESULTS - CARDED OPEN-END YARN				
				YARN SKEIN STRENGTH		ELONGATION	APPEARANCE INDEX	NEPS PER 1000 YARDS
NO.	NAME	CODE	STAPLE	8s	BREAK FACTOR	8s	8s	8s
			32ND	LBS.	NO.	PCT.	NO.	NO.
	SOUTHWEST							
	NORTHWEST TEXAS							
	SUDAN			QUAPAW		90 PERCENT		
1	SLM	41	33	268	2144	7.5	110	0
2	LM	51*	31	261	2088	7.7	100	2
	TULIA			GSA-71		80 PERCENT		
1	SLM	41	31	248	1984	7.9	110	1
2	LM LT SP	52**	33	256	2048	8.2	90	1
	OKLAHOMA							
	BRAY			LANKART 57		80 PERCENT		
1	SLM LT SP	42	31	226	1808	7.0	110	0
2	SLM SP	43	31	221	1768	7.0	110	2
	TEMPLE			LANKART 611		90 PERCENT		
1	LM LT SP	52**	31	226	1808	7.4	110	2
2	LM LT SP	52**	31	235	1880	7.3	110	1
	SOUTH TEXAS							
	CORPUS CHRISTI			CASCOT C-13		70 PERCENT		
1	M	31	32	230	1840	7.0	110	1
2	M	31	32	259	2072	7.1	110	3

*AVERAGING RULE USED.
**REDUCED FROM 42 BECAUSE OF BARK.

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TABLE 6.--COTTON, AMERICAN UPLAND MEDIUM STAPLE: QUALITY CHARACTERISTICS BY PRODUCTION AREA AND CLASSIFICATION, CROP OF 1984.

PRODUCTION AREA AND CLASSIFICATION			FIBER LENGTH			HVI-SHIRLEY FINENESS/MATURITY		1/8" GAGE STRENGTH		STEL. 1/8" ELONGATION	COLOR OF RAW STOCK			SUGAR CONTENT
GRADE	STAPLE		HVI UHM	M/UHM UNIF.	MICRONAIRE	FIN.	MAT.	HVI	STEL.		Rd	+b	COLOR CODE	
NO.-NAME-CODE	32ND IN.		IN.	PCT.	RDG.	MTEX	RATIO	G/TEX	G/TEX	PCT.	PCT.	UNITS	NO.	PCT.
SOUTHEAST														
ALABAMA														
MADISON			STONEVILLE 825			95 PERCENT								
1 SLM PLUS	40	36	1.12	82	45	190.9	0.928	25.4	22.1	6.1	79.2	8.6	21-2	0.42
2 SLM	41	36	1.09	80	41	181.4	0.862	25.8	23.6	6.0	79.0	8.2	31-1	0.41
MONTGOMERY			DELTAPINE 90			100 PERCENT								
1 SLM	41	35	1.10	79	38	161.4	0.865	27.4	25.7	6.6	75.0	8.3	41-1	0.38
2 SLM LT SP	42	35	1.08	80	47	181.5	0.948	27.0	23.4	6.4	70.0	8.2	41-4	0.19
OPELIKA			DELTAPINE 41			93 PERCENT								
1 SLM PLUS	40	35	1.11	79	42	179.3	0.931	25.6	23.8	6.5	77.5	9.2	21-4	0.32
2 M	31	35	1.03	79	43	170.7	0.924	26.4	24.1	5.9	78.7	8.8	21-2	0.31
TYLER			DELTAPINE 61			88 PERCENT								
1 M	31	36	1.19	82	47	184.6	0.978	26.8	23.5	6.5	79.7	8.5	21-1	0.37
2 SLM	41	36	1.18	82	46	179.7	0.932	26.4	25.6	6.2	76.7	8.1	31-2	0.26
FLORIDA														
JAY			DELTAPINE 41			95 PERCENT								
1 SLM	41	35	1.08	80	43	165.6	0.954	25.8	24.3	6.5	77.5	8.7	31-3	0.36
2 SLM	41	35	1.09	79	42	154.1	1.012	24.6	21.9	5.4	74.0	8.1	41-3	0.34
GEORGIA														
ELBERTON			COKER 315			90 PERCENT								
1 LM	51	35	1.07	80	36	168.1	0.803	26.8	23.3	6.1	72.0	7.9	41-4	0.35
2 LM	51	35	1.05	79	35	161.9	0.779	24.6	22.3	5.9	72.0	7.9	41-4	0.20
HAWKINSVILLE			STONEVILLE 825			80 PERCENT								
1 M	31	35	1.08	82	51	194.5	0.974	23.6	23.3	6.4	79.0	8.6	21-2	0.42
2 SLM	41	35	1.11	81	44	179.8	0.904	25.0	23.0	6.1	75.0	8.1	41-4	0.38
METTER			MCNAIR 220			90 PERCENT								
1 SLM	41	36	1.08	80	41	168.4	0.891	26.4	23.7	5.7	73.7	8.2	41-3	0.28
2 SLM	41	35	1.08	80	44	162.7	0.909	24.8	24.0	6.2	74.7	8.5	31-4	0.26

TABLE 6.--CONTINUED

PRODUCTION AREA AND CLASSIFICATION		SHIRLEY ANALYZER NON-LINT CONTENT		PICKER & CARD WASTE	YARN PROPERTIES										SPY
					STRENGTH			ELONGATION		APPEARANCE		NEPS			
GRADE	STAPLE	VISIBLE WASTE	TOTAL WASTE		22s	50s	BR. FACTOR	22s	50s	22s	50s	22s	50s		
NO.-NAME-CODE	32ND IN.	PCT.	PCT.	PCT.	LBS.	LBS.	AVG. NO.	PCT.	PCT.	INDEX	INDEX	NO.	NO.		NO.
SOUTHEAST															
ALABAMA															
MADISON		STONEVILLE 825				95 PERCENT									
1 SLM PLUS	40	36	0.9	1.4	7.8	104	33	1969	6.6	4.5	100	60	209	894	59
2 SLM	41	36	1.4	2.2	6.7	101	33	1936	6.8	4.8	100	70	127	948	57
MONTGOMERY		DELTAPINE 90				100 PERCENT									
1 SLM	41	35	1.3	2.2	5.6	117	39	2262	6.9	5.1	110	80	65	710	70
2 SLM LT SP	42	35	1.5	2.6	5.7	106	34	2016	5.7	4.6	110	70	105	843	57
OPELIKA		DELTAPINE 41				93 PERCENT									
1 SLM PLUS	40	35	1.2	2.1	5.4	105	32	1955	6.0	4.0	100	70	168	1263	55
2 M	31	35	0.6	1.4	7.4	103	31	1908	6.4	4.4	100	80	63	905	52
TYLER		DELTAPINE 61				88 PERCENT									
1 M	31	36	0.7	1.1	5.3	111	39	2196	6.5	5.0	120	80	135	764	71
2 SLM	41	36	1.5	2.5	5.6	117	40	2287	6.9	5.4	100	90	90	605	68
FLORIDA															
JAY		DELTAPINE 41				95 PERCENT									
1 SLM	41	35	1.9	2.7	6.7	106	34	2016	6.7	4.9	100	70	170	904	59
2 SLM	41	35	1.8	3.6	6.7	108	35	2063	6.8	5.0	100	70	127	1038	61
GEORGIA															
ELBERTON		COKER 315				90 PERCENT									
1 LM	51	35	3.2	3.9	7.0	115	39	2240	6.7	4.8	110	90	92	579	69
2 LM	51	35	2.5	3.7	6.9	104	35	2019	6.5	5.2	100	70	90	741	57
HAWKINSVILLE		STONEVILLE 825				80 PERCENT									
1 M	31	35	1.4	2.4	5.1	103	31	1908	5.8	4.1	100	70	121	931	54
2 SLM	41	35	1.7	2.4	5.6	105	35	2030	6.3	4.4	130	90	61	751	62
METTER		MCNAIR 220				90 PERCENT									
1 SLM	41	36	1.9	2.9	5.4	110	33	2035	6.0	4.7	100	70	111	797	63
2 SLM	41	35	1.7	2.1	5.4	108	37	2113	6.5	4.8	110	90	105	692	65

TABLE 6.-- CONTINUED

PRODUCTION AREA AND CLASSIFICATION			FIBER LENGTH		MICRONAIRE	HIC-SHIRLEY FINENESS/MATURITY		1/8" GAGE STRENGTH		STEL. 1/8" ELONGATION	COLOR OF RAW STOCK			SUGAR CONTENT
GRADE	STAPLE		HVI UHM	M/UHM UNIF.		FIN.	MAT.	HVI	STEL.		Rd	+b	COLOR CODE	
NO.-NAME-CODE	32ND IN.		IN.	PCT.	RDG.	MTEX	RATIO	G/TEX	G/TEX	PCT.	PCT.	UNITS	NO.	PCT.
SOUTHEAST														
NORTH CAROLINA														
HERTFORD		MCNAIR 235					75 PERCENT							
1 SLM	41	36	1.14	81	39	171.6	0.885	26.2	22.9	6.3	74.2	8.0	41-1	0.42
2 LM LT SP	52	36	1.11	81	35	162.7	0.783	26.4	24.1	6.1	65.8	7.9	51-3	0.26
SOUTH CAROLINA														
AIKEN		COKER 315					100 PERCENT							
1 SLM	41	35	1.14	79	38	154.2	0.804	26.8	24.2	6.0	76.8	8.7	31-3	0.40
2 SGO LT SP	62*	36	1.12	80	35	163.4	0.770	26.4	22.5	6.8	71.5	8.6	41-4	0.26
CLIO		MCNAIR 235					90 PERCENT							
1 LM PLUS	50	36	1.11	80	36	161.1	0.860	26.2	22.9	6.2	74.5	8.2	41-3	0.25
2 LM LT SP	52**	36	1.08	79	42	157.1	0.819	26.0	23.8	6.7	73.0	8.3	41-3	0.17
SOUTH CENTRAL														
ARKANSAS														
ALTHEIMER		DELTAPINE 61					100 PERCENT							
1 LM LT SP	52	36	1.15	79	37	159.4	0.832	25.2	22.2	6.0	71.5	8.4	41-4	0.32
2 LM LT SP	52	36	1.15	80	42	181.9	0.853	26.4	21.5	5.6	69.3	7.5	51-3	0.15
DUMAS		STONEVILLE 506					100 PERCENT							
1 SLM LT SP	42	37	1.17	81	43	182.3	0.877	25.4	21.7	6.7	69.0	8.6	41-4	0.21
2 SLM LT SP	42	36	1.12	79	37	163.7	0.822	24.4	22.4	6.3	74.2	8.5	41-3	0.19
HUGHES		DELTAPINE 41					100 PERCENT							
1 LM LT SP	52	36	1.15	79	35	148.9	0.800	24.8	21.9	6.1	68.0	9.3	42-2	0.21
2 LM LT SP	52	36	1.09	77	32	159.3	0.780	22.8	20.9	6.0	69.5	8.4	41-4	0.24

*REDUCED FROM 52 BECAUSE OF BARK.
**REDUCED FROM 42 BECAUSE OF GRASS.

TABLE 6.--CONTINUED

PRODUCTION AREA AND CLASSIFICATION		SHIRLEY ANALYZER NON-LINT CONTENT		PICKER & CARD WASTE	YARN PROPERTIES									SPY
					STRENGTH			ELONGATION		APPEARANCE		NEPS		
GRADE	STAPLE	VISIBLE WASTE	TOTAL WASTE		22s	50s	BR. FACTOR	22s	50s	22s	50s	22s	50s	
NO.-NAME-CODE	32ND IN.	PCT.	PCT.	PCT.	LBS.	LBS.	AVG. NO.	PCT.	PCT.	INDEX	INDEX	NO.	NO.	NO.
SOUTHEAST														
NORTH CAROLINA														
HERTFORD		MCNAIR 235				75 PERCENT								
1 SLM	41	36	2.4	3.8	6.7	115	39	2240	6.8	5.0	100	90	114	623	75
2 LM LT SP	52	36	3.5	4.5	6.9	117	40	2287	7.0	5.8	100	70	107	582	70
SOUTH CAROLINA														
AIKEN		COKER 315				100 PERCENT								
1 SLM	41	35	2.8	4.0	6.7	107	36	2077	6.8	5.2	100	60	288	1223	64
2 SGO LT SP	62*	36	4.6	5.5	7.9	105	35	2030	6.5	4.8	110	70	136	836	65
CLIO		MCNAIR 235				90 PERCENT								
1 LM PLUS	50	36	2.4	3.4	6.0	112	37	2157	6.2	4.5	100	80	136	731	65
2 LM LT SP	52**	36	2.1	4.3	6.0	108	36	2088	6.8	4.8	110	80	86	683	65
SOUTH CENTRAL														
ARKANSAS														
ALTHEIMER		DELTAPINE 61				100 PERCENT								
1 LM LT SP	52	36	2.4	3.4	7.6	91	29	1726	6.6	4.5	100	60	154	1412	49
2 LM LT SP	52	36	2.6	4.0	8.1	94	33	1859	5.5	5.0	90	60	156	831	52
DUMAS		STONEVILLE 506				100 PERCENT								
1 SLM LT SP	42	37	1.4	3.0	5.9	100	32	1900	6.5	4.2	120	80	109	787	60
2 SLM LT SP	42	36	1.4	2.5	6.0	97	32	1867	6.0	5.6	110	70	62	765	54
HUGHES		DELTAPINE 41				100 PERCENT								
1 LM LT SP	52	36	1.5	3.8	6.7	91	29	1726	5.8	4.4	90	60	150	1693	53
2 LM LT SP	52	36	1.6	3.1	6.6	89	28	1679	5.8	4.0	100	60	142	1449	50

*REDUCED FROM 52 BECAUSE OF BARK.
**REDUCED FROM 42 BECAUSE OF GRASS.

TABLE 6.-- CONTINUED

PRODUCTION AREA AND CLASSIFICATION			FIBER LENGTH			IIC-SHIRLEY FINENESS/MATURITY		1/8" GAGE STRENGTH		STEL. 1/8" ELON-	COLOR OF RAW STOCK			SUGAR
GRADE	STAPLE		HVI UHM	M/UHM UNIF.	MICRO-NAIRE	FIN.	MAT.	HVI	STEL.	GATION	Rd	+b	COLOR CODE	CONTENT
NO.-NAME-CODE	32ND IN.		IN.	PCT.	RDG.	MTEX	RATIO	G/TEX	G/TEX	PCT.	PCT.	UNITS	NO.	PCT.
SOUTH CENTRAL														
ARKANSAS														
LEPANTO		DELTAPINE 41				78 PERCENT								
1 SLM	41	38	1.19	82	45	179.5	0.943	28.6	25.6	5.9	77.5	8.1	31-1	0.22
2 LM LT SP	52	37	1.15	79	41	166.1	0.874	25.8	23.4	6.4	69.3	8.1	51-3	0.18
MCGEHEE		DELTAPINE 55				85 PERCENT								
1 LM LT SP	52	36	1.13	78	42	177.1	0.867	23.4	20.9	6.0	69.2	9.0	42-2	0.09
2 LM LT SP	52	35	1.09	79	40	167.5	0.839	24.0	20.2	6.1	72.7	8.6	41-3	0.20
PORTLAND		DELTAPINE NSL				75 PERCENT								
1 SLM	41	37	1.16	80	38	166.3	0.842	27.2	23.5	6.0	77.7	8.2	31-1	0.33
2 LM LT SP	52	37	1.15	81	42	170.7	0.852	26.0	21.4	7.2	66.7	8.4	51-3	0.21
RECTOR		STONEVILLE 506				82 PERCENT								
1 M	31	35	1.08	81	48	195.4	0.928	26.8	23.2	6.4	77.0	9.0	31-3	0.22
2 LM	51	35	1.10	80	42	181.9	0.902	26.2	21.9	6.4	72.5	8.3	41-3	0.15
TYRONZA		STONEVILLE 825				95 PERCENT								
1 SLM	41	37	1.13	81	46	188.0	0.920	27.0	23.8	5.2	76.3	8.6	31-3	0.21
2 LM LT SP	52	35	1.10	79	44	181.1	0.911	26.8	21.1	5.4	66.5	7.4	51-4	0.17
WATSON		STONEVILLE 825				70 PERCENT								
1 LM LT SP	52	35	1.10	79	42	174.1	0.879	24.8	21.0	6.0	69.3	8.3	41-4	0.20
2 LM LT SP	52	35	1.11	78	39	175.9	0.862	25.2	20.5	6.1	70.8	8.3	41-4	0.18
LOUISIANA														
BONITA		DELTAPINE 41				95 PERCENT								
1 SLM PLUS	40	37	1.19	81	41	168.3	0.892	27.4	24.6	5.9	78.0	8.5	31-1	0.36
2 LM LT SP	52	36	1.11	79	40	170.1	0.861	24.8	21.7	5.9	70.5	8.0	41-4	0.17
LAKE PROVIDENCE		STONEVILLE 825				100 PERCENT								
1 M	31	35	1.12	80	43	176.2	0.930	26.2	22.5	5.8	77.8	8.5	31-1	0.34
2 SLM LT SP	42	35	1.09	80	39	169.8	0.860	24.0	20.1	5.9	72.5	7.9	41-2	0.18
SICILY ISLAND		STONEVILLE 825				100 PERCENT								
1 SLM PLUS	40	35	1.13	81	48	197.7	0.975	24.6	23.0	5.4	75.5	8.3	31-2	0.28
2 LM LT SP	52	35	1.11	80	45	185.3	0.912	24.4	21.3	5.6	66.0	8.2	51-4	0.18

TABLE 6.--CONTINUED

PRODUCTION AREA AND CLASSIFICATION			SHIRLEY ANALYZER NON-LINT CONTENT		PICKER & CARD WASTE	YARN PROPERTIES									SPY
						STRENGTH			ELONGATION		APPEARANCE		NEPS		
GRADE	STAPLE		VISIBLE WASTE	TOTAL WASTE		22s	50s	BR. FACTOR	22s	50s	22s	50s	22s	50s	
NO.-NAME-CODE	32ND IN.		PCT.	PCT.	PCT.	LBS.	LBS.	AVG. NO.	PCT.	PCT.	INDEX	INDEX	NO.	NO.	NO.
SOUTH CENTRAL															
ARKANSAS															
LEPANTO		DELTAPINE 41					78 PERCENT								
1 SLM	41	38	2.4	3.2	6.8	121	43	2406	6.5	5.0	110	80	114	355	72
2 LM LT SP	52	37	2.0	3.1	7.4	94	30	1784	5.9	4.2	100	70	33	1204	52
MCGEHEE		DELTAPINE 55					85 PERCENT								
1 LM LT SP	52	36	1.3	1.8	5.9	90	29	1715	5.9	4.0	110	70	119	1147	50
2 LM LT SP	52	35	1.4	3.0	6.3	86	29*	1671	5.5	4.9	110	70	80	843	47
PORTLAND		DELTAPINE NSL					75 PERCENT								
1 SLM	41	37	1.9	3.0	6.5	107	36	2077	6.7	5.0	100	70	155	908	60
2 LM LT SP	52	37	1.8	2.8	6.3	96	31	1831	6.0	4.4	120	70	123	1016	58
RECTOR		STONEVILLE 506					82 PERCENT								
1 M	31	35	1.5	2.4	5.4	103	36	2033	6.3	4.7	110	80	140	839	54
2 LM	51	35	1.7	3.6	6.6	91	29*	1726	5.8	4.6	70	70	74	667	46
TYRONZA		STONEVILLE 825					95 PERCENT								
1 SLM	41	37	2.3	3.4	6.8	107	36	2077	6.0	5.0	100	70	142	913	63
2 LM LT SP	52	35	1.7	2.9	7.9	83	26*	1563	5.4	4.7	100	60	132	1036	38
WATSON		STONEVILLE 825					70 PERCENT								
1 LM LT SP	52	35	1.1	3.4	6.8	88	28*	1668	5.5	4.9	90	60	187	1173	49
2 LM LT SP	52	35	1.3	2.9	6.3	87	27*	1632	5.8	5.6	110	70	160	1033	49
LOUISIANA															
BONITA		DELTAPINE 41					95 PERCENT								
1 SLM PLUS	40	37	1.5	2.5	5.4	111	39	2196	6.5	4.5	100	70	103	468	64
2 LM LT SP	52	36	1.7	2.8	6.6	100	32	1900	6.0	4.5	100	70	65	867	58
LAKE PROVIDENCE		STONEVILLE 825					100 PERCENT								
1 M	31	35	1.2	2.2	6.5	98	29	1803	5.7	4.1	100	60	203	1020	49
2 SLM LT SP	42	35	1.4	3.1	6.5	93	30	1773	6.1	4.8	90	60	163	1141	51
SICILY ISLAND		STONEVILLE 825					100 PERCENT								
1 SLM PLUS	40	35	1.9	2.9	6.4	99	31	1864	5.9	4.0	100	70	127	747	56
2 LM LT SP	52	35	2.2	3.8	7.6	87	27	1632	6.0	3.4	100	70	48	1337	48

*END BREAKAGE TOO HIGH TO SPIN 50s YARN. 44s YARN SPUN AND STRENGTH ADJUSTED TO 50s.

TABLE 6.-- CONTINUED

PRODUCTION AREA AND CLASSIFICATION			FIBER LENGTH		MICRO-NAIRE	IIC-SHIRLEY FINENESS/MATURITY		1/8" GAGE STRENGTH		STEL. 1/8" ELON-GATION	COLOR OF RAW STOCK			SUGAR CONTENT
GRADE	: STAPLE		HVI UHM	: M/UHM : UNIF.		FIN.	: MAT.	HVI	STEL.		Rd	: +b	: COLOR CODE	
NO.-NAME-CODE	32ND IN.		IN.	PCT.	RDG.	MTEX	RATIO	G/TEX	G/TEX	PCT.	PCT.	UNITS	NO.	PCT.
SOUTH CENTRAL														
LOUISIANA														
ST. JOSEPH			DELTAPINE 41				95 PERCENT							
1 SLM PLUS	40	37	1.14	79	39	173.9	0.938	27.6	23.9	5.5	78.5	8.2	31-1	0.38
2 LM LT SP	52	36	1.16	81	43	173.5	0.918	25.6	22.5	5.9	67.5	8.2	51-3	0.15
MISSISSIPPI														
ASHLAND			MCNAIR 235				75 PERCENT							
1 LM LT SP	52	35	1.12	80	40	168.6	0.851	25.4	21.7	6.5	69.0	8.5	41-4	0.17
2 LM LT SP	52	35	1.08	78	36	161.3	0.857	24.2	21.1	6.7	69.0	8.7	41-4	0.16
ARCOLA			DELTAPINE 150				100 PERCENT							
1 SM	21	36	1.15	81	45	181.4	0.931	25.0	22.2	8.0	81.0	8.8	11-2	0.42
2 LM LT SP	52	35	1.11	79	39	165.1	0.811	23.6	21.6	6.9	66.0	8.1	51-4	0.18
CARY			DELTAPINE 55				80 PERCENT							
1 M	31	36	1.12	78	41	169.0	0.893	25.0	22.7	6.3	80.5	8.4	21-1	0.50
2 LM LT SP	52	37	1.15	79	42	150.2	1.003	25.0	22.0	6.0	67.0	7.9	51-4	0.22
GREENVILLE			STONEVILLE 825				100 PERCENT							
1 SLM	41	37	1.15	81	45	181.5	0.915	25.4	22.4	6.7	74.5	8.4	41-3	0.27
2 LM LT SP	52	36	1.11	79	44	182.3	0.885	24.2	20.6	5.3	68.7	8.4	51-3	0.18
GREENWOOD			STONEVILLE 825				100 PERCENT							
1 M	31	35	1.13	79	42	179.0	0.937	26.0	21.6	5.7	79.7	8.6	21-1	0.49
2 SLM	41	36	1.11	80	41	177.1	0.879	25.4	22.9	5.4	74.0	8.4	41-3	0.21
GUNNISON			DELTAPINE NSL				100 PERCENT							
1 LM LT SP	52	36	1.11	80	40	168.2	0.814	26.2	21.1	7.4	71.0	9.4	42-1	0.20
2 LM LT SP	52	35	1.14	81	40	167.9	0.871	23.8	21.8	7.4	69.5	8.2	41-4	0.19
LEARNED			STONEVILLE 213				88 PERCENT							
1 M	31	35	1.08	80	45	180.7	0.915	25.0	21.7	6.1	78.0	8.5	31-1	0.35
2 LM LT SP	52	35	1.09	79	40	179.1	0.860	25.4	20.5	6.0	66.8	8.8	52-1	0.17

TABLE 6.--CONTINUED

PRODUCTION AREA AND CLASSIFICATION			SHIRLEY ANALYZER NON-LINT CONTENT		PICKER & CARD WASTE	YARN PROPERTIES									
						STRENGTH			ELONGATION		APPEARANCE		NEPS		SPY
GRADE	STAPLE		VISIBLE WASTE	TOTAL WASTE		22s	50s	BR. FACTOR	22s	50s	22s	50s	22s	50s	
NO.-NAME-CODE	32ND IN.		PCT.	PCT.	PCT.	LBS.	LBS.	AVG. NO.	PCT.	PCT.	INDEX	INDEX	NO.	NO.	NO.
SOUTH CENTRAL															
LOUISIANA															
ST. JOSEPH			DELTAPINE 41				95 PERCENT								
1 SLM PLUS	40	37	1.7	2.6	5.9	110	38	2160	6.8	4.8	100	70	121	1027	63
2 LM LT SP	52	36	1.6	2.7	6.3	104	34	1994	5.9	4.4	110	70	121	1272	59
MISSISSIPPI															
ASHLAND			MCNAIR 235				75 PERCENT								
1 LM LT SP	52	35	2.4	3.8	7.6	93	29	1748	6.2	4.2	110	70	97	873	50
2 LM LT SP	52	35	3.4	5.3	7.6	88	29*	1693	6.0	5.5	100	70	109	751	48
ARCOLA			DELTAPINE 150				100 PERCENT								
1 SM	21	36	0.7	1.2	4.8**	109	35	2074	6.7	5.2	120	80	94	489	59
2 LM LT SP	52	35	1.3	2.9	6.5	87	27	1632	6.4	4.8	110	70	120	885	52
CARY			DELTAPINE 55				80 PERCENT								
1 M	31	36	1.6	2.5	6.0	109	32	1999	6.4	4.5	100	70	94	959	55
2 LM LT SP	52	37	2.6	3.9	14.8	97	32	1867	7.0	4.7	100	70	122	1125	56
GREENVILLE			STONEVILLE 825				100 PERCENT								
1 SLM	41	37	2.4	3.6	6.8	98	31	1853	6.0	4.1	100	70	198	1216	55
2 LM LT SP	52	36	1.6	3.2	6.8	88	28*	1668	5.7	4.0	90	60	208	1124	46
GREENWOOD			STONEVILLE 825				100 PERCENT								
1 M	31	35	1.2	2.2	6.4	103	33	1958	6.1	4.9	110	60	212	1065	53
2 SLM	41	36	1.2	2.3	6.5	98	32	1878	6.4	4.4	100	70	158	951	61
GUNNISON			DELTAPINE NSL				100 PERCENT								
1 LM LT SP	52	36	2.2	3.5	7.0	99	32	1889	6.8	5.3	100	70	162	870	60
2 LM LT SP	52	35	1.9	3.5	6.0	92	30	1762	6.5	4.5	100	60	123	1185	54
LEARNED			STONEVILLE 213				88 PERCENT								
1 M	31	35	1.1	2.1	7.8	93	25*	1648	5.5	4.2	100	60	189	972	44
2 LM LT SP	52	35	1.8	3.0	7.3	90	29*	1715	5.7	4.8	100	60	128	715	46

*END BREAKAGE TOO HIGH TO SPIN 50s YARN. 44s YARN SPUN AND STRENGTH ADJUSTED TO 50s.
**COTTON STUCK TO PROCESSING ROLLS.

TABLE 6.-- CONTINUED

PRODUCTION AREA AND CLASSIFICATION		FIBER LENGTH		MICRO-NAIRE	IIC-SHIRLEY FINENESS/MATURITY		1/8" GAGE STRENGTH		STEL. 1/8" ELON-GATION	COLOR OF RAW STOCK			SUGAR CONTENT
GRADE	STAPLE	HVI UHM	M/UHM UNIF.		FIN.	MAT.	HVI	STEL.		Rd	+b	COLOR CODE	
NO.-NAME-CODE	32ND IN.	IN.	PCT.	RDG.	MTEX	RATIO	G/TEX	G/TEX	PCT.	PCT.	UNITS	NO.	PCT.
SOUTH CENTRAL													
MISSISSIPPI													
LELAND		STONEVILLE 506				100 PERCENT							
1 LM LT SP	52	1.13	78	36	161.4	0.762	25.8	21.5	6.5	66.2	8.4	51-3	0.18
2 LM LT SP	52	1.13	77	35	156.6	0.785	26.8	21.0	6.7	67.7	8.0	51-3	0.22
NEW ALBANY		DELTAPINE 41				75 PERCENT							
1 M	31	1.06	80	38	166.1	0.887	25.8	23.2	6.2	78.0	9.0	21-4	0.37
2 LM LT SP	52	1.07	79	33	145.3	0.714	25.4	22.5	5.8	71.0	8.5	41-4	0.22
ROBINSONVILLE		DELTAPINE 41				100 PERCENT							
1 LM LT SP	52	1.11	78	38	146.6	0.795	24.0	20.3	6.1	69.0	8.6	41-4	0.31
2 SLM LT SP	42	1.10	78	29	126.0	0.723	24.2	23.7	6.2	76.3	8.1	31-2	0.22
TUNICA		DES 422				100 PERCENT							
1 LM LT SP	52	1.16	80	38	164.9	0.817	24.2	21.3	6.4	65.5	8.4	52-2	0.20
2 LM LT SP	52	1.13	79	38	154.6	0.822	24.6	21.1	6.2	69.0	8.4	51-3	0.18
MISSOURI													
KENNETT		STONEVILLE 506				78 PERCENT							
1 SLM	41	1.13	81	45	186.2	0.906	26.8	23.7	6.2	73.0	9.4	31-4	0.22
2 LM LT SP	52	1.09	80	45	187.3	0.908	26.0	20.7	6.6	66.2	8.8	52-1	0.14
MATTHEWS		STONEVILLE 825				80 PERCENT							
1 LM	51	1.16	81	46	169.5	0.877	26.8	23.6	5.7	69.8	8.4	41-4	0.20
2 LM	51	1.12	79	41	170.1	0.889	24.6	22.7	6.2	70.8	8.0	41-4	0.15
NEW MADRID		DELTAPINE 41				80 PERCENT							
1 SLM	41	1.12	81	45	188.0	0.927	27.4	24.3	5.5	74.0	8.8	31-4	0.24
2 LM LT SP	52	1.09	80	43	177.5	0.905	26.6	23.1	6.0	65.3	8.8	52-1	0.20

TABLE 6.--CONTINUED

PRODUCTION AREA AND CLASSIFICATION		SHIRLEY ANALYZER NON-LINT CONTENT		PICKER & CARD WASTE	YARN PROPERTIES									
					STRENGTH			ELONGATION		APPEARANCE		NEPS		SPY
GRADE	STAPLE	VISIBLE WASTE	TOTAL WASTE		22s	50s	BR. FACTOR	22s	50s	22s	50s	22s	50s	
NO.-NAME-CODE	32ND IN.	PCT.	PCT.	PCT.	LBS.	LBS.	AVG. NO.	PCT.	PCT.	INDEX	INDEX	NO.	NO.	NO.
SOUTH CENTRAL														
MISSISSIPPI														
LELAND		STONEVILLE 506				100 PERCENT								
1 LM LT SP	52	36	2.3	4.3	7.3	96	30	1806	6.0	4.7	90	70	103	1026	51
2 LM LT SP	52	36	2.2	4.2	7.3	92	29*	1737	5.8	5.3	100	70	113	794	49
NEW ALBANY		DELTAPINE 41				75 PERCENT								
1 M	31	35	1.1	2.1	5.4	105	31	1930	6.0	4.3	110	60	239	1104	52
2 LM LT SP	52	35	2.4	4.0	7.4	89	29*	1704	6.3	5.3	100	60	160	973	48
ROBINSONVILLE		DELTAPINE 41				100 PERCENT								
1 LM LT SP	52	36	1.5	3.0	6.3	95	30	1795	6.0	4.7	90	70	139	1339	55
2 SLM LT SP	42	36	1.2	2.0	6.3	106	34	2016	6.8	5.0	100	60	76	931	57
TUNICA		DES 422				100 PERCENT								
1 LM LT SP	52	36	3.0	4.9	8.6	94	30	1784	6.3	4.6	100	60	159	1191	54
2 LM LT SP	52	35	2.2	3.9	8.1	92	29	1737	6.2	4.7	100	60	469	1153	51
MISSOURI														
KENNETT		STONEVILLE 506				78 PERCENT								
1 SLM	41	36	1.9	2.8	6.5	115	38	2215	6.8	5.0	120	80	164	647	62
2 LM LT SP	52	36	2.1	2.9	7.0	92	27	1687	5.8	4.4	100	80	70	1009	52
MATTHEWS		STONEVILLE 825				80 PERCENT								
1 LM	51	37	2.4	3.6	7.5	107	35	2052	6.2	4.5	100	70	143	953	59
2 LM	51	36	1.7	3.3	7.0	93	30	1773	5.7	4.6	100	60	72	1144	51
NEW MADRID		DELTAPINE 41				80 PERCENT								
1 SLM	41	36	1.8	2.7	6.2	108	36	2088	6.2	4.8	100	70	114	821	64
2 LM LT SP	52	36	2.5	3.7	7.3	98	31	1853	5.8	4.4	110	80	86	940	51

*END BREAKAGE TOO HIGH TO SPIN 50s YARN. 44s YARN SPUN AND STRENGTH ADJUSTED TO 50s.

TABLE 6.-- CONTINUED

PRODUCTION AREA AND CLASSIFICATION			FIBER LENGTH		MICRO-NAIRE	HC-SHIRLEY FINENESS/MATURITY		1/8" GAGE STRENGTH		STEL. 1/8" ELON-GATION	COLOR OF RAW STOCK			SUGAR CONTENT
GRADE	: STAPLE		HVI UHM	: M/UHM : UNIF.		FIN.	: MAT.	HVI	STEL.		Rd	: +b	: COLOR CODE	
NO.-NAME-CODE	32ND	IN.	IN.	PCT.	RDG.	MTEX	RATIO	G/TEX	G/TEX	PCT.	PCT.	UNITS	NO.	PCT.
SOUTH CENTRAL														
TENNESSEE														
BELLS			STONEVILLE 825				95 PERCENT							
1 SLM	41	36	1.11	81	46	178.6	0.943	27.2	23.9	5.6	75.3	8.6	31-4	0.23
2 LM LT SP	52	35	1.06	81	40	182.0	0.873	25.4	21.0	5.8	72.2	8.3	41-3	0.18
ELORA			STONEVILLE 825				95 PERCENT							
1 LM LT SP	52	35	1.09	79	32	155.4	0.709	26.4	21.8	6.8	69.5	9.0	42-2	0.21
2 SLM LT SP	42	34	1.04	76	27	136.2	0.663	26.0	21.0	6.5	75.3	8.6	31-4	0.18
MASON			STONEVILLE 506				100 PERCENT							
1 SLM LT SP	42	35	1.09	79	42	182.3	0.856	25.6	21.8	6.1	70.5	9.0	41-4	0.19
2 SLM LT SP	42	35	1.10	80	43	184.5	0.912	25.0	22.0	6.0	70.8	8.7	41-4	0.16
SOMERVILLE			DELTAPINE NSL				80 PERCENT							
1 SLM LT SP	42	35	1.07	80	43	192.3	0.874	24.8	20.3	7.9	70.0	8.8	41-4	0.18
2 SLM LT SP	42	35	1.03	80	42	165.4	0.855	23.2	20.9	7.0	73.0	8.4	41-3	0.16
SOUTHWEST														
CENTRAL TEXAS														
BATESVILLE			DELTAPINE 61				90 PERCENT							
1 M	31	34	1.14	81	43	167.5	0.975	25.6	26.1	6.3	80.0	8.2	21-2	0.44
2 M	31	35	1.15	81	44	179.9	1.002	25.6	23.3	6.7	77.7	9.8	21-3	0.34
NAVASOTA			STONEVILLE 825				100 PERCENT							
1 M	31	34	1.07	80	45	178.3	0.938	23.0	23.7	5.4	78.7	8.6	21-2	0.38
2 SLM	41	34	1.04	79	39	169.6	0.915	24.2	21.0	5.9	73.0	8.5	41-3	0.24

TABLE 6.--CONTINUED

PRODUCTION AREA AND CLASSIFICATION		SHIRLEY ANALYZER NON-LINT CONTENT		PICKER & CARD WASTE	YARN PROPERTIES									
					STRENGTH			ELONGATION		APPEARANCE		NEPS		SPY
GRADE	STAPLE	VISIBLE WASTE	TOTAL WASTE		22s	50s	BR. FACTOR	22s	50s	22s	50s	22s	50s	
NO.-NAME-CODE	32ND IN.	PCT.	PCT.	PCT.	LBS.	LBS.	AVG. NO.	PCT.	PCT.	INDEX	INDEX	NO.	NO.	NO.
SOUTH CENTRAL														
TENNESSEE														
BELLS		STONEVILLE 825				95 PERCENT								
1 SLM	41	36	2.2	3.1	6.5	106	35	2041	6.0	4.8	100	80	143	847	59
2 LM LT SP	52	35	2.5	3.7	10.5	95	30	1795	5.8	4.0	110	70	91	474	52
ELORA		STONEVILLE 825				95 PERCENT								
1 LM LT SP	52	35	2.4	3.9	7.1	96	30	1806	6.7	4.4	90	60	209	1235	48
2 SLM LT SP	42	34	1.8	3.5	6.5	95	29	1770	6.8	4.5	100	60	120	1144	50
MASON		STONEVILLE 506				100 PERCENT								
1 SLM LT SP	42	35	1.7	3.1	6.2	90	29*	1715	5.9	4.4	110	80	102	659	47
2 SLM LT SP	42	35	1.6	3.0	6.5	93	31	1798	6.3	4.2	110	70	16	793	52
SOMERVILLE		DELTAPINE NSL				80 PERCENT								
1 SLM LT SP	42	35	1.3	2.8	6.2	87	27*	1632	6.4	5.0	100	70	81	737	42
2 SLM LT SP	42	35	1.0	1.9	5.8	88	27	1643	6.1	4.5	110	70	73	914	45
SOUTHWEST														
CENTRAL TEXAS														
BATESVILLE		DELTAPINE 61				90 PERCENT								
1 M	31	34	1.5	2.2	5.6	114	39	2229	6.3	4.7	100	70	114	1007	67
2 M	31	35	0.9	2.1	5.9	109	36	2099	6.3	4.5	110	80	108	872	56
NAVASOTA		STONEVILLE 825				100 PERCENT								
1 M	31	34	1.1	1.9	5.4	89	30	1729	5.5	4.0	100	70	151	1201	49
2 SLM	41	34	1.6	2.7	6.8	96	28	1756	5.5	4.0	110	80	110	953	52

*END BREAKAGE TOO HIGH TO SPIN 50s YARN. 44s YARN SPUN AND STRENGTH ADJUSTED TO 50s.

TABLE 6.-- CONTINUED

PRODUCTION AREA AND CLASSIFICATION			FIBER LENGTH		MICRONAIRE	IIC-SHIRLEY FINENESS/MATURITY		1/8" GAGE STRENGTH		STEL. 1/8" ELONGATION	COLOR OF RAW STOCK			SUGAR CONTENT
GRADE	STAPLE		HVI UHM	M/UHM UNIF.		FIN.	MAT.	HVI	STEL.		Rd	+b	COLOR CODE	
NO.-NAME-CODE	32ND IN.		IN.	PCT.	RDG.	MTEX	RATIO	G/TEX	G/TEX	PCT.	PCT.	UNITS	NO.	PCT.
SOUTHWEST														
NORTHWEST TEXAS														
AMHERST		DUNN 119					88 PERCENT							
1 LM	51	36	1.12	80	29	203.4	0.547	30.2	27.4	6.3	76.0	8.4	31-2	0.37
2 LM	51	36	1.12	79	29	140.9	0.673	30.0	25.9	7.1	75.7	8.2	31-2	0.32
CEE VEE		PAYMASTER 145					75 PERCENT							
1 SLM LT SP	42	31	0.97	79	37	161.8	0.748	24.6	23.7	6.5	77.8	9.1	21-4	0.35
2 LM LT SP	52	32	0.98	80	32	147.6	0.738	27.8	26.4	6.9	74.7	9.0	31-4	0.21
ESTACADO		PAYMASTER 404					100 PERCENT							
1 LM PLUS	50	33	1.01	80	32	146.1	0.770	24.6	23.4	6.8	76.8	8.4	31-1	0.48
2 LM LT SP	52	33	1.02	79	29	137.2	0.717	27.0	24.3	7.0	74.7	8.8	31-4	0.29
LAMESA		DUNN 120					100 PERCENT*							
1 SLM LT SP	42	30	0.93	78	29	137.1	0.735	26.0	22.9	6.5	77.3	9.0	21-4	0.24
LORENZO		PAYMASTER 303					75 PERCENT							
1 LM LT SP	52**	33	1.00	77	30	155.8	0.651	25.0	21.3	7.1	75.5	9.1	31-3	0.37
2 LM LT SP	52**	32	0.98	77	27	135.8	0.605	26.6	22.9	6.8	73.0	9.8	32-2	0.28
PLAINS		CASCOT L-7					70 PERCENT							
1 SLM LT SP	42	31	0.92	76	25	123.9	0.652	23.6	20.9	6.8	77.3	9.1	21-4	0.33
2 LM LT SP	52**	31	0.94	76	25	124.9	0.684	24.6	21.6	7.8	78.0	8.8	21-2	0.31
OKLAHOMA														
CLINTON		TAMCOT CAMD-E					85 PERCENT							
1 LM LT SP	52	31	0.94	78	35	150.1	0.834	23.6	21.6	5.2	73.5	10.0	31-1	0.43
2 LM SP	53***	33	1.02	78	27	144.5	0.678	26.0	22.3	6.3	69.0	11.0	33-2	0.48

*100 PERCENT SELECTED FOR TESTS, LESS THAN 100 PERCENT IN THE AREA.
**REDUCED FROM 42 BECAUSE OF BARK.
***REDUCED FROM 43 BECAUSE OF BARK.

TABLE 6.--CONTINUED

PRODUCTION AREA AND CLASSIFICATION			SHIRLEY ANALYZER NON-LINT CONTENT		PICKER & CARD WASTE	YARN PROPERTIES									
						STRENGTH			ELONGATION		APPEARANCE		NEPS		SPY
GRADE	STAPLE		VISIBLE WASTE	TOTAL WASTE		22s	50s	BR. FACTOR	22s	50s	22s	50s	22s	50s	
NO.-NAME-CODE	32ND IN.		PCT.	PCT.	PCT.	LBS.	LBS.	AVG. NO.	PCT.	PCT.	INDEX	INDEX	NO.	NO.	NO.
SOUTHWEST															
NORTHWEST TEXAS															
AMHERST		DUNN 119				88 PERCENT									
1 LM	51	36	4.2	6.0	8.5	118	42	2348	6.8	5.5	100	80	135	828	69
2 LM	51	36	4.1	5.4	8.6	120	43	2395	6.7	6.0	100	70	110	630	68
CEE VEE		PAYMASTER 145				75 PERCENT									
1 SLM LT SP	42	31	2.2	3.8	6.8	104	34	1994	6.4	4.7	100	70	119	730	51
2 LM LT SP	52	32	3.2	5.5	8.0	109	37	2124	6.3	4.9	100	70	154	783	58
ESTACADO		PAYMASTER 404				100 PERCENT									
1 LM PLUS	50	33	3.2	4.7	7.5	105	34	2005	6.9	5.0	100	60	109	833	50
2 LM LT SP	52	33	3.4	5.0	8.4	100	32	1900	6.7	4.6	100	60	169	936	55
LAMESA		DUNN 120				100 PERCENT*									
1 SLM LT SP	42	30	1.2	3.1	6.3	103	33	1958	6.8	5.0	100	70	70	526	52
LORENZO		PAYMASTER 303				75 PERCENT									
1 LM LT SP	52**	33	2.4	4.3	7.7	89	28	1679	6.8	5.0	100	60	83	757	51
2 LM LT SP	52**	32	3.2	5.8	8.2	96	29	1781	6.8	4.8	100	70	105	840	48
PLAINS		CASCOT L-7				70 PERCENT									
1 SLM LT SP	42	31	2.0	4.0	8.0	92	28***	1712	6.1	5.0	90	60	143	893	42
2 LM LT SP	52**	31	2.0	4.4	8.0	90	27	1665	6.8	5.5	90	60	80	738	41
OKLAHOMA															
CLINTON		TAMCOT CAMD-E				85 PERCENT									
1 LM LT SP	52	31	4.2	5.5	9.2	94	29	1759	5.7	4.4	100	70	82	730	49
2 LM SP	53#	33	3.1	4.9	8.8	97	31***	1842	6.2	5.1	100	70	117	667	48

*100 PERCENT SELECTED FOR TESTS, LESS THAN 100 PERCENT IN THE AREA.
**REDUCED FROM 42 BECAUSE OF BARK.
***END BREAKAGE TOO HIGH TO SPIN 50s YARN. 44s YARN SPUN AND STRENGTH ADJUSTED TO 50s.
#REDUCED FROM 43 BECAUSE OF BARK.

TABLE 6.-- CONTINUED

PRODUCTION AREA AND CLASSIFICATION			FIBER LENGTH		MICRONAIRE	HIC-SHIRLEY FINENESS/MATURITY		1/8" GAGE STRENGTH		STEL. 1/8" ELONGATION	COLOR OF RAW STOCK			SUGAR CONTENT
GRADE	STAPLE		HVI UHM	M/UHM UNIF.		FIN.	MAT.	HVI	STEL.		Rd	+b	COLOR CODE	
NO.-NAME-CODE	32ND IN.		IN.	PCT.	RDG.	MTEX	RATIO	G/TEX	G/TEX	PCT.	PCT.	UNITS	NO.	PCT.
SOUTHWEST														
OKLAHOMA														
ELDORADO			STONEVILLE 213			80 PERCENT								
1 SLM	41*	34	1.06	80	40	168.5	0.869	26.2	23.2	5.8	77.0	8.8	31-3	0.46
2 SLM	41	34	1.04	79	40	167.0	0.869	24.6	21.3	6.2	74.8	8.6	31-4	0.34
SWEETWATER			LANKART PR-75			70 PERCENT								
1 SLM LT SP	42	30	0.93	79	32	150.8	0.821	23.0	21.9	6.6	76.5	9.2	31-3	0.30
2 LM LT SP	52	31	0.95	79	33	145.2	0.764	24.2	21.0	5.5	73.0	8.3	41-3	0.29
SOUTH TEXAS														
EDROY			GP 3774			80 PERCENT								
1 M	31	32	1.01	79	34	153.9	0.859	23.2	22.1	6.6	80.0	9.4	11-4	0.48
2 M	31	32	1.01	79	36	157.2	0.865	22.0	21.5	6.1	79.3	9.0	21-1	0.53
GREGORY			TAMCOT SP-37			75 PERCENT								
1 SLM PLUS	40	32	1.01	80	36	158.2	0.901	24.2	24.2	6.2	78.7	8.9	21-2	0.55
2 SLM	41	32	1.02	79	34	154.1	0.843	23.0	22.6	6.2	78.5	8.0	31-1	0.49
MISSION			STONEVILLE 825			100 PERCENT								
1 LM	51	35	1.14	81	44	184.5	0.931	25.0	22.3	6.5	73.0	8.1	41-3	0.26
2 LM PLUS	50	35	1.13	81	41	176.2	0.876	24.6	23.3	5.7	78.0	7.9	31-1	0.38
ODEM			TAMCOT SP-37H			85 PERCENT								
1 M	31	32	1.01	78	34	149.2	0.880	24.6	22.0	5.7	79.5	9.1	21-1	0.33
2 M	31	33	1.03	79	34	149.0	0.871	22.8	22.8	6.4	80.0	8.8	21-1	0.47
RAYMONDVILLE			DELTAPINE 41			90 PERCENT								
1 M	31	33	0.99	80	37	159.6	0.896	23.0	20.9	5.9	77.0	9.3	21-4	0.37
2 SLM	41	34	1.08	81	41	170.7	0.899	23.2	22.6	5.7	74.0	8.3	41-3	0.31

*AVERAGING RULE USED.

TABLE 6.--CONTINUED

PRODUCTION AREA AND CLASSIFICATION		SHIRLEY ANALYZER NON-LINT CONTENT		PICKER & CARD WASTE	YARN PROPERTIES									
					STRENGTH			ELONGATION		APPEARANCE		NEPS		SPY
GRADE	STAPLE	VISIBLE WASTE	TOTAL WASTE		22s	50s	BR. FACTOR	22s	50s	22s	50s	22s	50s	
NO.-NAME-CODE	32ND IN.	PCT.	PCT.	PCT.	LBS.	LBS.	AVG. NO.	PCT.	PCT.	INDEX	INDEX	NO.	NO.	NO.
SOUTHWEST														
OKLAHOMA														
ELDORADO		STONEVILLE 213				80 PERCENT								
1 SLM	41*	34	3.7	5.7	8.4	97	30	1817	6.6	4.8	90	60	234	1490	49
2 SLM	41	34	2.7	4.5	8.5	85	25**	1560	5.9	4.5	100	60	68	1316	38
SWEETWATER		LANKART PR-75				70 PERCENT									
1 SLM LT SP	42	30	2.7	4.0	7.6	95	30	1795	6.5	4.8	110	70	51	710	44
2 LM LT SP	52	31	3.9	5.3	8.7	95	29**	1770	5.8	4.6	100	70	118	580	45
SOUTH TEXAS															
EDROY		GP 3774				80 PERCENT									
1 M	31	32	1.8	2.7	7.0	87	21	1482	5.9	3.8	110	60	79	582	46
2 M	31	32	1.4	2.7	6.8	91	28	1701	5.8	3.9	110	80	67	621	47
GREGORY		TAMCOT SP-37				75 PERCENT									
1 SLM PLUS	40	32	2.1	3.2	7.8	91	23	1576	5.3	3.7	100	60	162	762	48
2 SLM	41	32	2.4	3.7	8.1	99	31	1864	6.4	4.3	100	70	128	756	53
MISSION		STONEVILLE 825				100 PERCENT									
1 LM	51	35	2.6	3.7	7.1	97	32	1867	5.7	4.0	120	90	80	652	54
2 LM PLUS	50	35	2.9	4.1	7.9	107	36	2077	5.8	4.4	100	70	104	870	63
ODEM		TAMCOT SP-37H				85 PERCENT									
1 M	31	32	1.0	2.2	6.2	86	24	1546	5.3	3.8	110	70	63	657	46
2 M	31	33	1.2	2.6	6.0	101	31	1886	6.1	4.2	120	90	56	558	55
RAYMONDVILLE		DELTAPINE 41				90 PERCENT									
1 M	31	33	1.1	2.1	6.0	91	24	1601	5.5	5.3	120	70	75	129	50
2 SLM	41	34	1.4	2.6	6.5	105	35	2030	6.0	4.4	120	90	99	533	56

*AVERACING RULE USED.
**END BREAKAGE TOO HIGH TO SPIN 50s YARN. 44s YARN SPUN AND STRENGTH ADJUSTED TO 50s.

TABLE 6.-- CONTINUED

PRODUCTION AREA AND CLASSIFICATION			FIBER LENGTH		MICRO-NAIRE	IIC-SHIRLEY FINENESS/MATURITY		1/8" GAGE STRENGTH		STEL. 1/8" ELON-GATION	COLOR OF RAW STOCK			SUGAR CONTENT
GRADE	STAPLE		HVI UHM	M/UHM UNIF.		FIN.	MAT.	HVI	STEL.		Rd	+b	COLOR CODE	
NO.-NAME-CODE	32ND	IN.	IN.	PCT.	RDG.	MTEX	RATIO	G/TEX	G/TEX	PCT.	PCT.	UNITS	NO.	PCT.
WEST														
ARIZONA														
AGUILA			DELTAPINE 90				90 PERCENT							
1 M	31	36	1.15	80	43	173.7	0.935	28.6	24.2	6.2	79.0	8.7	21-2	0.33
2 M	31	36	1.17	81	42	171.3	0.931	28.4	25.1	6.3	81.0	8.9	11-2	0.26
AVONDALE			DELTAPINE 61				85 PERCENT							
1 M	31	36	1.15	80	49	192.4	1.004	27.4	23.6	5.6	80.0	8.6	21-1	0.31
2 M	31	36	1.15	79	47	188.6	0.963	26.4	22.9	5.6	81.7	8.0	21-1	0.30
BUCKEYE			DELTAPINE 90				86 PERCENT							
1 M	31	35	1.09	80	49	186.6	1.020	29.4	24.2	5.9	79.0	9.0	21-1	0.25
2 M	31	36	1.13	80	49	188.2	0.982	28.0	25.3	5.7	80.5	8.6	21-1	0.32
BUCKEYE			DELTAPINE 120				100 PERCENT							
1 M	31	35	1.05	81	52	197.6	1.023	25.6	24.6	6.4	78.0	8.5	31-1	0.25
2 M	31	35	1.06	81	46	175.7	0.974	26.8	24.3	6.4	81.7	8.3	11-2	0.26
ELOY			DELTAPINE 41				90 PERCENT							
1 SLM	41	36	1.15	80	44	173.3	0.934	26.6	23.9	6.1	78.7	8.4	21-2	0.40
2 SLM	41	36	1.15	79	42	168.7	0.907	26.0	24.2	6.1	79.0	8.4	21-2	0.32
GILA BEND			DELTAPINE 70				70 PERCENT							
1 M	31	35	1.11	81	54	180.3	1.163	29.4	26.2	5.5	79.2	8.8	21-1	0.21
2 SLM	41	36	1.12	81	50	191.8	0.998	28.6	25.1	5.2	80.0	9.1	11-2	0.30
GILA BEND			STONEVILLE 506				91 PERCENT							
1 SLM	41	36	1.12	81	47	178.0	1.015	26.6	24.7	5.7	78.2	9.2	21-3	0.31
2 SLM	41	36	1.12	81	49	170.0	1.100	28.0	24.1	5.8	77.8	9.0	21-4	0.26
SAFFORD			DELTAPINE 90				96 PERCENT							
1 M	31	36	1.12	79	42	173.3	0.910	28.2	24.3	6.6	78.7	8.7	21-2	0.30
2 M	31	36	1.08	79	34	152.4	0.809	27.8	23.8	6.3	82.3	8.2	11-2	0.56
CALIFORNIA														
BAKERSFIELD			ACALA SJ-2				100 PERCENT							
1 SM	21	36	1.14	81	42	169.1	0.949	29.6	27.0	5.7	79.0	9.2	21-3	0.33
2 M	31	36	1.13	81	43	171.2	0.936	30.4	27.0	5.6	79.3	9.0	21-1	0.37

TABLE 6.--CONTINUED

PRODUCTION AREA AND CLASSIFICATION		SHIRLEY ANALYZER NON-LINT CONTENT		PICKER & CARD WASTE	YARN PROPERTIES										SPY
					STRENGTH			ELONGATION		APPEARANCE		NEPS			
GRADE	STAPLE	VISIBLE WASTE	TOTAL WASTE		22s	50s	BR. FACTOR	22s	50s	22s	50s	22s	50s		
NO.-NAME-CODE	32ND IN.	PCT.	PCT.	PCT.	LBS.	LBS.	AVG. NO.	PCT.	PCT.	INDEX	INDEX	NO.	NO.		NO.
WEST															
ARIZONA															
AGUILA		DELTAPINE 90				90 PERCENT									
1 M	31	36	0.9	2.0	5.3	115	37	2190	6.2	4.8	110	80	85	943	59
2 M	31	36	0.8	2.1	5.1	116	40	2276	6.0	5.0	120	70	92	726	67
AVONDALE		DELTAPINE 61				85 PERCENT									
1 M	31	36	1.2	2.7	6.0	101	30	1861	6.0	4.4	100	70	206	1619	50
2 M	31	36	1.0	2.1	6.3	93	30	1773	5.8	4.8	90	60	197	1403	49
BUCKEYE		DELTAPINE 90				86 PERCENT									
1 M	31	35	0.9	1.3	5.6	116	38	2226	5.9	4.4	120	70	106	784	60
2 M	31	36	0.9	2.3	5.6	114	38	2204	6.0	5.0	110	70	236	695	55
BUCKEYE		DELTAPINE 120				100 PERCENT									
1 M	31	35	1.0	1.8	6.2	103	31	1908	5.4	4.3	100	60	160	966	46
2 M	31	35	0.8	1.9	6.2	102	33	1947	6.2	5.2	100	70	117	1106	52
ELOY		DELTAPINE 41				90 PERCENT									
1 SLM	41	36	2.0	3.0	7.0	106	35	2041	6.1	4.8	100	60	186	1411	54
2 SLM	41	36	1.6	2.7	6.2	107	36	2077	6.5	5.2	100	80	129	1076	60
GILA BEND		DELTAPINE 70				70 PERCENT									
1 M	31	35	1.3	2.0	5.9	111	34	2071	5.5	3.9	110	70	105	1020	52
2 SLM	41	36	1.4	2.8	5.7	113	39	2218	5.5	4.4	120	80	127	891	58
GILA BEND		STONEVILLE 506				91 PERCENT									
1 SLM	41	36	2.1	3.4	5.7	114	40	2254	6.1	4.8	110	80	114	573	68
2 SLM	41	36	1.8	3.1	7.2	103	32	1933	5.5	4.1	120	70	110	962	53
SAFFORD		DELTAPINE 90				96 PERCENT									
1 M	31	36	0.8	2.3	6.7	110	36	2110	6.5	4.8	110	70	87	1007	55
2 M	31	36	1.0	2.4	6.0	96	30	1806	6.4	5.0	100	60	136	877	49
CALIFORNIA															
BAKERSFIELD		ACALA SJ-2				100 PERCENT									
1 SM	21	36	0.8	1.5	5.7	133	45	2588	6.7	5.2	100	80	132	690	77
2 M	31	36	0.8	1.9	5.3	128	45	2533	6.2	4.8	110	70	148	730	76

TABLE 6.-- CONTINUED

PRODUCTION AREA AND CLASSIFICATION			FIBER LENGTH		MICRO-NAIRE	IIC-SHIRLEY FINENESS/MATURITY		1/8" GAGE STRENGTH		STEL. 1/8" ELON-GATION	COLOR OF RAW STOCK			SUGAR CONTENT
GRADE	: STAPLE		HVI UHM	: M/UHM : UNIF.		FIN.	: MAT.	HVI	STEL.		Rd	: +b	: COLOR CODE	
NO.-NAME-CODE	32ND IN.		IN.	PCT.	RDG.	MTEX	RATIO	G/TEX	G/TEX	PCT.	PCT.	UNITS	NO.	PCT.
WEST														
CALIFORNIA														
BLYTHE			DELTAPINE 90			95 PERCENT								
1 M	31	36	1.19	82	47	177.8	0.984	29.4	27.6	5.5	78.7	9.2	21-3	0.34
2 M	31	36	1.12	81	44	186.0	1.032	29.4	27.2	5.0	78.2	9.0	21-3	0.23
BRAWLEY			DELTAPINE 61			98 PERCENT								
1 M	31	35	1.12	80	44	178.5	0.998	25.0	24.5	5.4	79.0	8.3	21-2	0.24
2 M	31	35	1.12	80	48	185.5	0.994	25.8	23.6	6.1	79.0	8.1	31-1	0.20
COALINGA			ACALA SJ-2			100 PERCENT								
1 M	31	36	1.09	80	43	169.5	0.952	29.4	26.8	6.2	79.5	9.5	11-4	0.37
2 M	31	36	1.13	79	36	156.2	0.856	30.4	25.0	5.9	80.0	9.0	11-2	0.33
CORCORAN			ACALA SJ-2			100 PERCENT								
1 SM	21	36	1.13	81	45	171.7	0.951	30.2	27.1	5.4	79.5	9.0	21-1	0.30
2 M	31	37	1.13	80	44	166.0	0.980	29.6	26.9	5.8	78.5	9.0	21-2	0.43
DOS PALOS			ACALA SJC-1			100 PERCENT*								
1 M	31	36	1.14	82	40	149.8	0.957	31.6	29.0	5.7	79.7	8.6	21-1	0.37
2 M	31	36	1.16	82	41	158.1	0.996	30.8	27.5	6.1	79.5	8.5	21-1	0.34
FIREBAUGH			ACALA SJC-1			100 PERCENT*								
1 M	31	36	1.13	81	35	138.2	0.884	30.4	27.2	6.2	80.3	8.5	21-1	0.36
2 M	31	36	1.19	82	41	157.5	0.966	31.2	28.3	6.3	81.0	8.6	11-2	0.37
FIVE POINTS			ACALA SJ-2			100 PERCENT								
1 M	31	36	1.19	81	38	159.7	0.857	29.6	27.6	6.2	79.2	8.8	21-2	0.36
2 M	31	36	1.17	81	40	169.8	0.921	29.4	25.9	6.2	79.7	8.8	21-1	0.38
KERMAN			ACALA SJ-2			100 PERCENT								
1 M	31	37	1.16	82	41	170.1	0.832	29.4	26.6	6.4	79.0	9.2	21-3	0.37
2 M	31	36	1.14	81	39	159.4	0.875	26.8	26.1	6.1	79.2	8.8	21-1	0.40
RIVERDALE			ACALA SJ-2			100 PERCENT								
1 M	31	36	1.15	81	37	156.0	0.841	31.0	27.7	5.7	78.5	8.8	21-2	0.34
2 M	31	36	1.15	80	42	167.4	0.938	30.2	27.3	6.1	79.0	9.2	21-3	0.37

*100 PERCENT SELECTED FOR TESTS, LESS THAN 100 PERCENT IN THE AREA.

TABLE 6.--CONTINUED

PRODUCTION AREA AND CLASSIFICATION			SHIRLEY ANALYZER NON-LINT CONTENT		PICKER & CARD WASTE	YARN PROPERTIES									SPY
						STRENGTH			ELONGATION		APPEARANCE		NEPS		
GRADE	STAPLE		VISIBLE WASTE	TOTAL WASTE		22s	50s	BR. FACTOR	22s	50s	22s	50s	22s	50s	
NO.-NAME-CODE	32ND IN.		PCT.	PCT.	PCT.	LBS.	LBS.	AVG. NO.	PCT.	PCT.	INDEX	INDEX	NO.	NO.	NO.
WEST															
CALIFORNIA															
BLYTHE		DELTAPINE 90				95 PERCENT									
1 M	31	36	1.1	2.1	5.7	125	43	2450	6.2	4.5	110	90	121	897	75
2 M	31	36	0.9	1.7	6.4	117	39	2262	5.4	4.2	100	70	116	842	62
BRAWLEY		DELTAPINE 61				98 PERCENT									
1 M	31	35	1.2	2.3	6.6	98	30	1828	5.1	3.7	100	60	356	1908	48
2 M	31	35	1.0	2.4	6.2	97	31	1842	5.0	3.7	100	70	218	1573	52
COALINGA		ACALA SJ-2				100 PERCENT									
1 M	31	36	1.4	2.6	6.2	114	39	2229	5.7	4.4	110	70	251	1033	58
2 M	31	36	1.0	1.3	5.5	120	42	2370	6.4	4.8	90	70	192	961	64
CORCORAN		ACALA SJ-2				100 PERCENT									
1 SM	21	36	0.9	1.6	5.9	120	43	2395	6.0	4.8	100	80	225	947	66
2 M	31	37	1.1	2.0	5.6	127	47	2572	6.3	5.4	100	70	261	693	72
DOS PALOS		ACALA SJC-1				100 PERCENT*									
1 M	31	36	1.2	4.5	6.0	143	52	2873	6.2	4.8	100	80	294	679	93
2 M	31	36	1.2	2.0	5.5	134	50	2724	6.4	4.7	100	70	107	571	83
FIREBAUGH		ACALA SJC-1				100 PERCENT*									
1 M	31	36	1.5	2.8	5.7	138	50	2768	7.1	5.4	90	70	273	863	88
2 M	31	36	1.3	1.9	5.4	141	53	2876	6.6	5.7	100	70	312	699	91
FIVE POINTS		ACALA SJ-2				100 PERCENT									
1 M	31	36	1.4	3.4	5.9	130	46	2580	6.2	5.1	90	70	206	1052	76
2 M	31	36	1.1	1.6	5.2	124	45	2489	6.8	5 4	100	70	155	663	79
KERMAN		ACALA SJ-2				100 PERCENT									
1 M	31	37	1.3	2.5	5.4	129	47	2594	6.6	4.8	100	70	197	804	75
2 M	31	36	0.9	1.4	4.9**	125	45	2500	6.5	5.4	110	70	193	708	70
RIVERDALE		ACALA SJ-2				100 PERCENT									
1 M	31	36	1.3	2.1	6.2	124	44	2464	6.7	5.0	100	70	263	906	79
2 M	31	36	1.6	2.6	5.1	125	43	2450	6.7	5.0	100	70	190	954	76

*100 PERCENT SELECTED FOR TESTS, LESS THAN 100 PERCENT IN THE AREA.
**COTTON STUCK TO PROCESSING ROLLS.

TABLE 6.-- CONTINUED

PRODUCTION AREA AND CLASSIFICATION			FIBER LENGTH		MICRO-NAIRE	IIC-SHIRLEY FINENESS/MATURITY		1/8" GAGE STRENGTH		STEL. 1/8" ELON-GATION	COLOR OF RAW STOCK			SUGAR CONTENT
GRADE		STAPLE	HVI UHM	M/UHM UNIF.		FIN.	MAT.	HVI	STEL.		Rd	+b	COLOR CODE	
NO.-NAME-CODE		32ND IN.	IN.	PCT.	RDG.	MTEX	RATIO	G/TEX	G/TEX	PCT.	PCT.	UNITS	NO.	PCT.
WEST														
CALIFORNIA														
TULARE			GC-510			100 PERCENT*								
1 M	31	37	1.18	83	42	159.4	0.980	31.6	28.1	5.6	80.5	8.7	21-1	0.35
2 M	31	37	1.15	83	45	159.8	1.032	28.6	27.7	5.9	79.5	8.3	21-2	0.48
VISALIA			ACALA SJ-5			100 PERCENT*								
1 M	31	37	1.14	81	43	165.1	0.933	30.4	26.8	5.4	77.0	8.8	31-3	0.36
2 M	31	37	1.15	81	43	156.5	0.983	28.6	26.9	5.5	78.5	8.6	21-2	0.33
VISALIA			ACALA SJ-5			98 PERCENT								
1 M	31	36	1.13	81	41	151.6	0.977	28.4	27.7	5.5	78.5	9.0	21-2	0.38
2 M	31	37	1.15	81	45	160.6	0.997	29.2	27.1	5.5	79.0	8.5	21-2	0.44
WASCO			ACALA SJC-1			100 PERCENT*								
1 M	31	36	1.13	82	43	158.3	0.979	30.6	27.0	6.0	78.3	9.3	21-3	0.42
2 M	31	37	1.13	82	42	159.9	0.989	30.8	28.3	5.9	80.0	9.1	11-2	0.33
WASCO			ACALA SJ-2			100 PERCENT								
1 M	31	36	1.17	81	42	165.9	0.986	30.0	28.6	5.3	78.3	9.0	21-2	0.31
2 SLM	41	36	1.16	81	41	164.6	0.922	28.4	25.4	6.1	76.3	9.0	31-3	0.37

*100 PERCENT SELECTED FOR TESTS, LESS THAN 100 PERCENT IN THE AREA.

TABLE 6.--CONTINUED

PRODUCTION AREA AND CLASSIFICATION		SHIRLEY ANALYZER NON-LINT CONTENT		PICKER & CARD WASTE	YARN PROPERTIES									
					STRENGTH			ELONGATION		APPEARANCE		NEPS		SPY
GRADE	STAPLE	VISIBLE WASTE	TOTAL WASTE		22s	50s	BR. FACTOR	22s	50s	22s	50s	22s	50s	
NO.-NAME-CODE	32ND IN.	PCT.	PCT.	PCT.	LBS.	LBS.	AVG. NO.	PCT.	PCT.	INDEX	INDEX	NO.	NO.	NO.
WEST														
CALIFORNIA														
TULARE		GC-510				100 PERCENT*								
1 M	31	37	1.2	2.0	5.7	137	53	2832	6.6	5.3	100	80	363	796	85
2 M	31	37	0.7	2.8	4.6	143	52	2873	6.7	5.0	100	70	370	775	80
VISALIA		ACALA SJ-5				100 PERCENT*								
1 M	31	37	1.1	1.9	5.9	131	45	2566	6.1	4.8	100	80	176	864	70
2 M	31	37	1.0	2.0	4.8**	134	48	2674	6.2	5.3	100	70	254	726	79
VISALIA		ACALA SJ-5				98 PERCENT								
1 M	31	36	1.3	2.5	5.4	138	50	2768	6.8	4.8	100	80	244	712	83
2 M	31	37	0.9	1.9	4.5	142	52	2862	6.4	4.8	100	70	271	643	84
WASCO		ACALA SJC-1				100 PERCENT*								
1 M	31	36	1.1	2.2	5.3	134	50	2724	6.9	5.5	100	70	205	597	81
2 M	31	37	1.2	2.4	5.2	137	50	2757	6.5	5.1	90	70	78	502	77
WASCO		ACALA SJ-2				100 PERCENT								
1 M	31	36	0.8	1.5	5.3	140	49	2765	6.7	4.9	100	70	168	678	89
2 SLM	41	36	1.4	2.3	5.4	124	44	2464	6.2	5.0	100	70	130	554	77

*100 PERCENT SELECTED FOR TESTS, LESS THAN 100 PERCENT IN THE AREA.
**COTTON STUCK TO PROCESSING ROLLS.

TABLE 7.--COTTON, AMERICAN UPLAND LONG STAPLE: QUALITY CHARACTERISTICS BY PRODUCTION AREA AND CLASSIFICATION, CROP OF 1984.

PRODUCTION AREA AND CLASSIFICATION		FIBER LENGTH		MICRONAIRE	HIC-SHIRLEY FINENESS/MATURITY		1/8" GAGE STRENGTH		STEL. 1/8" ELONGATION	COLOR OF RAW STOCK			SUGAR CONTENT
GRADE	STAPLE	HVI UHM	M/UHM UNIF.		FIN.	MAT.	HVI	STEL.		Rd	+b	COLOR CODE	
NO.-NAME-CODE	32ND IN.	IN.	PCT.	RDG.	MTEX	RATIO	G/TEX	G/TEX	PCT.	PCT.	UNITS	NO.	PCT.
WEST													
NEW MEXICO													
COLUMBUS		ACALA 1517-75				100 PERCENT							
1 SLM	41	38	1.18	81	34	136.6 0.870	28.8	27.1	6.4	76.0	7.9	31-2	0.32
2 SLM	41	37	1.16	82	38	142.8 0.920	25.6	26.6	6.5	79.0	7.8	31-1	0.36

TABLE 7.--CONTINUED

PRODUCTION AREA AND CLASSIFICATION			SHIRLEY ANALYZER NON-LINT CONTENT		P&C AND COMBER WASTE	YARN PROPERTIES									
						STRENGTH			ELONGATION		APPEARANCE		NEPS		SPY
GRADE	STAPLE		VISIBLE WASTE	TOTAL WASTE		22s	50s	BR. FACTOR	22s	50s	22s	50s	22s	50s	
NO.-NAME-CODE	32ND IN.		PCT.	PCT.	PCT.	LBS.	LBS.	AVG. NO.	PCT.	PCT.	INDEX	INDEX	NO.	NO.	NO.
WEST															
NEW MEXICO															
COLUMBUS			ACALA 1517-75					100 PERCENT							
1 SLM	41	38	1.7	2.5	7.7	143	48	2773	6.7	5.6	100	70	85	573	96
					* 18.3	152	56	3072	6.7	5.8	130	110	20	181	
2 SLM	41	37	1.3	2.3	7.3	129	47	2594	6.5	5.3	100	70	75	592	92
					* 18.1	150	55	3025	6.6	5.4	130	110	19	147	

*COMBED YARN DATA.

TABLE 8.--COTTON, AMERICAN PIMA EXTRA LONG STAGLE: QUALITY CHARACTERISTICS BY PRODUCTION AREA AND CLASSIFACATION, CROP OF 1984.

PRODUCTION AREA AND CLASSIFICATION			FIBROGRAPH		MICRONAIRE	IIC-SHIRLEY FINENESS/MATURITY		STELOMETER		COLOR OF RAW STOCK			SUGAR CONTENT
GRADE		STAPLE	2.5% SPAN	50/2.5 UNIF.		FIN.	MAT.	1/8" GAGE FIBER STRENGTH	1/8" ELONGATION	Rd	+b	COLOR CODE	
NO	CODE	32ND IN.	IN.	PCT.	RDG.	MTEX	RATIO	G/TEX	PCT.	PCT.	UNITS	NO.	PCT.
WEST													
ARIZONA													
	CASA GRANDE		PIMA S-6				100 PERCENT						
1	4	46	1.37	47	42	149.1	1.003	34	7.2	65.5	11.6	-	0.21
2	4	46	1.34	49	40	146.6	1.011	33	6.2	68.8	11.8	-	0.21
	SAFFORD		PIMA S-6				100 PERCENT						
1	4	46	1.34	47	44	161.1	1.009	34	7.7	64.5	12.8	-	0.28
2	4	46	1.30	48	40	163.0	1.002	35	7.0	66.5	12.3	-	0.19
	WENDEN		PIMA S-6				100 PERCENT						
1	4	46	1.31	47	39	142.0	0.951	36	7.1	66.5	12.2	-	0.24
2	4	46	1.33	48	39	150.1	0.977	37	7.5	69.0	11.8	-	0.25
NEW MEXICO													
	MESQUITE		PIMA S-6				100 PERCENT						
1	4	46	1.30	47	40	156.5	0.942	33	7.6	65.3	12.0	-	0.24
2	5	46	1.30	47	40	152.4	0.922	34	7.4	66.5	11.6	-	0.19
WEST TEXAS													
	EL PASO		PIMA S-6				99 PERCENT						
1	4	46	1.33	47	42	153.6	0.991	32	7.4	65.0	12.2	-	0.26
2	5	46	1.28	45	40	151.3	0.947	32	6.5	65.0	12.0	-	0.20
	FABENS		PIMA S-6				100 PERCENT						
1	4	46	1.30	46	41	155.9	0.935	35	7.8	62.7	11.5	-	0.19
2	5	46	1.29	47	39	156.9	0.969	33	7.7	65.2	11.6	-	0.20

TABLE 8.--CONTINUED

PRODUCTION AREA AND CLASSIFICATION			SHIRLEY ANALYZER NON-LINT CONTENT		PICKER & CARD WASTE	COMBER WASTE	YARN PROPERTIES							
							STRENGTH			ELONGATION		APPEARANCE		NEPS	
GRADE NO.	STAPLE CODE	32ND IN.	VISIBLE WASTE PCT.	TOTAL WASTE PCT.	PCT.	PCT.	50s LBS.	80s LBS.	BR. FACTOR AVG. NO.	50s PCT.	80s PCT.	50s INDEX	80s INDEX	50s NO.	80s NO.
WEST															
ARIZONA															
CASA GRANDE			PIMA S-6												
1	4	46	2.4	3.9	8.1	16.1	70	100 PERCENT		5.7	4.8	120	110	93	389
2	4	46	1.5	2.9	7.3	15.0	71	38	3270	5.8	5.0	120	110	105	352
								38	3295						
SAFFORD			PIMA S-6												
1	4	46	1.5	2.6	6.5	15.2	65	100 PERCENT		5.3	4.8	130	120	53	368
2	4	46	3.2	5.1	6.9	15.3	67	35	3025	6.0	5.2	120	110	65	257
								36	3115						
WENDEN			PIMA S-6												
1	4	46	1.9	2.9	5.9	16.2	70	100 PERCENT		6.0	5.3	120	110	112	129
2	4	46	1.6	2.4	7.0	16.1	71	38	3270	5.5	5.0	120	110	100	337
								38	3295						
NEW MEXICO															
MESQUITE			PIMA S-6												
1	4	46	1.8	3.0	6.9	15.1	65	100 PERCENT		5.7	5.3	120	110	40	393
2	5	46	1.6	3.0	7.7	15.6	67	34	2985	5.9	5.0	130	120	74	273
								35	3075						
WEST TEXAS															
EL PASO			PIMA S-6												
1	4	46	1.2	2.7	7.2	15.0	68	99 PERCENT		5.5	4.8	130	120	114	391
2	5	46	1.4	3.0	10.5	16.0	65	36	3140	5.5	4.9	110	110	101	313
								33	2945						
FABENS			PIMA S-6												
1	4	46	1.2	2.7	6.8	14.3	64	100 PERCENT		6.0	5.4	120	110	114	322
2	5	46	1.9	3.4	7.7	15.6	65	34	2960	5.7	5.0	120	110	83	299
								35	3025						

TABLE 9.--COTTON: MEANS AND STANDARD DEVIATIONS OF TEST MEASUREMENTS PERFORMED ON 210 SAMPLES COLLECTED FROM SELECTED GIN POINTS, CROP OF 1984.

TEST ITEM	35 SHORT STAPLE SAMPLES		161 MEDIUM STAPLE SAMPLES		2 LONG STAPLE SAMPLES		12 EXTRA LONG STAPLE SAMPLES	
	MEAN	STANDARD DEVIATION	MEAN	STANDARD DEVIATION	MEAN	STANDARD DEVIATION	MEAN	STANDARD DEVIATION
FIBER PROPERTIES:								
CLASSIFICATION:								
GRADE ---------- INDEX	86.0	8.7	91.6	8.4	94.0	0.0	-	-
STAPLE ---------- 32ND IN.	31.3	1.2	35.2	1.5	37.5	0.7	46.0	0.0
FIBER LENGTH:								
UPPER HALF MEAN -------- IN.	0.962	0.041	1.102	0.058	1.170	0.014	-	-
MEAN/UHM UNIF. -------- PCT.	78.5	1.1	79.9	1.3	81.5	0.7	-	-
2.5% SPAN ---------- IN.	-	-	-	-	-	-	1.316	0.026
50/2.5 UNIF. ---------- PCT.	-	-	-	-	-	-	47.1	1.0
MICRONAIRE ---------- RDG.	33.5	6.1	40.4	5.5	36.0	2.8	40.5	1.5
IIC-SHIRLEY FINENESS/MATURITY:								
FINENESS ---------- MTEX	153.07	19.24	167.74	15.05	139.70	4.38	153.21	5.96
MATURITY ---------- RATIO	0.765	0.100	0.884	0.094	0.895	0.035	0.972	0.032
FIBER STRENGTH:								
HVI 1/8 " GAGE ------- G/TEX	24.1	2.0	26.4	2.2	27.2	2.3	-	-
STELOMETER 1/8" GAGE - G/TEX	21.7	1.3	23.6	2.2	26.9	0.4	34.1	1.4
STEL. ELONGATION ------ PCT.	6.87	0.61	6.13	0.53	6.45	0.07	7.26	0.49
SHIRLEY ANALYZER:								
VISIBLE WASTE --------- PCT.	2.70	1.31	1.76	0.80	1.50	0.28	1.77	0.56
TOTAL WASTE ---------- PCT.	4.36	1.62	2.99	1.05	2.40	0.14	3.13	0.73
COLOR OF RAW STOCK								
GRAYNESS (Rd) --------- PCT.	73.83	4.18	75.22	4.45	77.50	2.12	65.87	1.76
YELLOWNESS (+b) ------ UNITS	9.27	0.88	8.62	0.48	7.85	0.07	11.95	0.38
SUGAR CONTENT ---------- PCT.	0.288	0.107	0.298	0.099	0.340	0.028	0.222	0.031

TABLE 9.--CONTINUED

TEST ITEM	35 SHORT STAPLE SAMPLES		161 MEDIUM STAPLE SAMPLES		2 LONG STAPLE SAMPLES		12 EXTRA LONG STAPLE SAMPLES	
	MEAN	: STANDARD : DEVIATION	MEAN	: STANDARD : DEVIATION	MEAN	: STANDARD : DEVIATION	MEAN	: STANDARD : DEVIATION
MANUFACTURING WASTE:								
PICKER AND CARD ------- PCT.	7.57	1.53	6.57	1.22	7.50	0.28	7.38	1.14
COMBER WASTE ---------- PCT.	-	-	-	-	18.20	0.14	15.46	0.58
CARDED YARN DATA:								
YARN SKEIN STRENGTH:								
8s (74 TEX) ---------- LBS.	299.7	18.1	-	-	-	-		
22s (27 TEX) ---------- LBS.	94.3	6.0	105.6	14.6	136.0	9.9		
50s (12 TEX) ---------- LBS.	-	-	34.8	7.0	47.5	0.7		
AVERAGE BREAK FACTOR --- NO.	2235.6	135.5	2030.9	332.9	2683.5	126.6		
YARN ELONGATION:								
8s (74 TEX) ---------- PCT.	7.63	0.77	-	-	-	-		
22s (27 TEX) ---------- PCT.	6.72	0.66	6.21	0.45	6.60	0.14		
50s (12 TEX) ---------- PCT.	-	-	4.71	0.47	5.45	0.21		
YARN APPEARANCE:								
8s (74 TEX) --------- INDEX	103.1	9.6	-	-	-	-		
22s (27 TEX) --------- INDEX	97.4	10.7	102.9	8.3	100.0	0.0		
50s (12 TEX) --------- INDEX	-	-	70.6	7.9	70.0	0.0		
YARN NEPS:								
8s (74 TEX) ---------- NO.	22.5	11.8	-	-	-	-		
22s (27 TEX) ---------- NO.	121.7	92.9	141.9	69.2	80.0	7.1		
50s (12 TEX) ---------- NO.	-	-	889.6	263.5	582.5	13.4		
SPINNING POTENTIAL ------- NO.	46.2	5.6	58.6	11.5	94.0	2.8		

TABLE 9.--CONTINUED

TEST ITEM	34 SHORT STAPLE SAMPLES		161 MEDIUM STAPLE SAMPLES		2 LONG STAPLE SAMPLES		12 EXTRA LONG STAPLE SAMPLES	
	MEAN	: STANDARD : DEVIATION	MEAN	: STANDARD : DEVIATION	MEAN	: STANDARD : DEVIATION	MEAN	: STANDARD : DEVIATION
CARDED YARN SPUN ON AN OPEN-END FRAME :								
YARN SKEIN STRENGTH:								
8s (74 TEX) ---------- LBS.	246.1	16.1						
BREAK FACTOR ---------- NO.	1968.5	128.8						
YARN ELONGATION:								
8s (74 TEX) ---------- PCT.	7.50	0.53						
YARN APPEARANCE:								
8s (74 TEX) --------- INDEX	106.5	7.7						
YARN NEPS:								
8s (74 TEX) ---------- NO.	2.8	3.4						
COMBED YARN DATA:								
YARN SKEIN STRENGTH:								
22s (27 TEX) ---------- LBS.					151.0	1.4	-	-
50s (12 TEX) ---------- LBS.					55.5	0.7	67.3	2.6
80s (7.4 TEX) --------- LBS.					-	-	35.8	1.8
AVERAGE BREAK FACTOR --- NO.					3048.5	33.2	3116.7	135.2
YARN ELONGATION:								
22s (27 TEX) ---------- PCT.					6.65	0.07	-	-
50s (12 TEX) ---------- PCT.					5.60	0.28	5.72	0.23
80s (7.4 TEX) --------- PCT.					-	-	5.04	0.21
YARN APPEARANCE:								
22s (27 TEX) --------- INDEX					130.0	0.0	-	-
50s (12 TEX) --------- INDEX					110.0	0.0	121.7	5.8
80s (7.4 TEX) -------- INDEX					-	-	112.5	4.5
YARN NEPS:								
22s (27 TEX) ---------- NO.					19.5	0.7	-	-
50s (12 TEX) ---------- NO.					164.0	24.0	87.8	24.9
80s (7.4 TEX) ---------- NO.					-	-	318.6	75.0

TABLE 10.--COTTON: SIMPLE CORRELATION ANALYSIS FOR FIBER AND PROCESSING TEST RESULTS FROM 35 SHORT STAPLE SAMPLES COLLECTED FROM SELECTED GIN POINTS, CROP OF 1984.

TEST ITEM	CLASSIFICATION		FIBER LENGTH		MICRONAIRE	IIC-SHIRLEY FINENESS/MATURITY		1/8" GAGE STRENGTH		STEL. 1/8" ELONGATION	COLOR OF RAW STOCK		SUGAR CONTENT
	GRADE	STAPLE	HVI UHM	M/UHM UNIF.		FIN.	MAT.	HVI	STEL.		Rd	+b	
	SIMPLE CORRELATION COEFFICIENTS (r's)												
CLASSIFICATION:													
GRADE ---------- INDEX	+1.00	-.32	-.24	+.33	+.40	+.31	+.56	-.29	-.03	-.17	+.67	-.25	+.29
STAPLE -------- 32ND IN.	-.32	+1.00	+.91	-.41	-.56	-.49	-.50	+.41	+.47	-.19	-.11	+.20	+.56
FIBER LENGTH:													
UPPER HALF MEAN ---- IN.	-.24	+.91	+1.00	-.33	-.42	-.38	-.36	+.38	+.50	-.26	-.13	+.24	+.56
MEAN/UHM UNIF. ---- PCT.	+.33	-.41	-.33	+1.00	+.61	+.65	+.47	-.11	-.11	+.15	+.27	-.26	-.24
MICRONAIRE ---------- RDG.	+.40	-.56	-.42	+.61	+1.00	+.94	+.92	-.55	-.54	-.24	-.05	+.24	-.26
IIC-SHIRLEY:													
FINENESS ---------- MTEX	+.31	-.49	-.38	+.65	+.94	+1.00	+.83	-.40	-.50	-.17	-.10	+.21	-.33
MATURITY --------- RATIO	+.56	-.50	-.36	+.47	+.92	+.83	+1.00	-.62	-.51	-.36	+.04	+.26	-.12
FIBER STRENGTH:													
HVI 1/8" GAGE ---- G/TEX	-.29	+.41	+.38	-.11	-.55	-.40	-.62	+1.00	+.62	+.53	+.08	-.35	-.01
STEL. 1/8" GAGE -- G/TEX	-.03	+.47	+.50	-.11	-.54	-.50	-.51	+.62	+1.00	+.23	+.38	-.40	+.53
STEL. ELONGATION -- PCT.	-.17	-.19	-.26	+.15	-.24	-.17	-.36	+.53	+.23	+1.00	+.14	-.49	-.44
COLOR OF RAW STOCK:													
GRAYNESS (Rd) ----- PCT.	+.67	-.11	-.13	+.27	-.05	-.10	+.04	+.08	+.38	+.14	+1.00	-.72	+.45
YELLOWNESS (+b) -- UNITS	-.25	+.20	+.24	-.26	+.24	+.21	+.26	-.35	-.40	-.49	-.72	+1.00	-.07
SUGAR CONTENT ------- PCT.	+.29	+.56	+.56	-.24	-.26	-.33	-.12	-.01	+.53	-.44	+.45	-.07	+1.00
SHIRLEY ANALYZER:													
VISIBLE WASTE ----- PCT.	-.69	+.50	+.35	-.26	-.52	-.48	-.61	+.26	+.34	+.06	-.28	+.01	+.22
TOTAL WASTE ------- PCT.	-.76	+.47	+.31	-.32	-.62	-.56	-.73	+.30	+.23	+.15	-.36	+.01	+.09
PICKER AND CARD WASTE ---------- PCT.	-.57	+.39	+.28	-.27	-.29	-.29	-.28	-.08	+.08	-.10	-.34	+.29	+.18
YARN STRENGTH:													
8s (74 TEX) ------ LBS.	+.11	+.37	+.32	+.20	-.42	-.35	-.43	+.51	+.81	+.27	+.65	-.63	+.48
22s (27 TEX) ------ LBS.	+.11	+.34	+.32	+.16	-.44	-.38	-.41	+.45	+.76	+.17	+.59	-.59	+.44
AVG. BREAK FACTOR -- NO.	+.11	+.36	+.33	+.18	-.44	-.37	-.43	+.49	+.80	+.23	+.63	-.62	+.47
YARN ELONGATION:													
8s (74 TEX) ------ PCT.	+.00	+.36	+.25	+.03	-.58	-.49	-.62	+.62	+.64	+.45	+.56	-.65	+.29
22s (27 TEX) ------ PCT.	-.17	+.33	+.24	-.10	-.65	-.56	-.69	+.60	+.63	+.38	+.46	-.57	+.23
YARN APPEARANCE:													
8s (74 TEX) ----- INDEX	+.59	-.51	-.55	+.49	+.55	+.52	+.57	-.30	-.23	+.08	+.46	-.21	-.16
22s (27 TEX) ----- INDEX	+.74	-.35	-.27	+.59	+.54	+.54	+.59	-.17	-.05	+.04	+.65	-.42	+.05
YARN NEPS:													
8s (74 TEX) ------- NO.	-.32	+.07	+.02	-.61	-.19	-.22	-.12	-.15	-.27	-.14	-.49	+.51	-.08
22s (27 TEX) ------- NO.	-.59	+.36	+.34	-.53	-.32	-.31	-.28	-.00	-.07	-.20	-.73	+.65	-.02
SPINNING POTENTIAL --- NO.	+.19	+.34	+.33	+.08	-.37	-.30	-.32	+.50	+.70	+.34	+.56	-.55	+.38

TABLE 10.--CONTINUED

TEST ITEM	SHIRLEY ANALYZER NON-LINT CONTENT: VISIBLE WASTE	SHIRLEY ANALYZER NON-LINT CONTENT: TOTAL WASTE	PICKER & CARD WASTE	YARN PROPERTIES: STRENGTH 8s	STRENGTH 22s	STRENGTH BR. FACTOR	ELONGATION 8s	ELONGATION 22s	APPEARANCE 8s	APPEARANCE 22s	NEPS 8s	NEPS 22s	SPY NO.
	SIMPLE CORRELATION COEFFICIENTS (r's)												
CLASSIFICATION:													
GRADE ---------- INDEX	-.69	-.76	-.57	+.11	+.11	+.11	+.00	-.17	+.59	+.74	-.32	-.59	+.19
STAPLE -------- 32ND IN.	+.50	+.47	+.39	+.37	+.34	+.36	+.36	+.33	-.51	-.35	+.07	+.36	+.34
FIBER LENGTH:													
UPPER HALF MEAN ---- IN.	+.35	+.31	+.28	+.32	+.32	+.33	+.25	+.24	-.55	-.27	+.02	+.34	+.33
MEAN/UHM UNIF. ---- PCT.	-.26	-.32	-.27	+.20	+.16	+.18	+.03	-.10	+.49	+.59	-.61	-.53	+.08
MICRONAIRE ---------- RDG.	-.52	-.62	-.29	-.42	-.44	-.44	-.58	-.65	+.55	+.54	-.19	-.32	-.37
IIC-SHIRLEY:													
FINENESS ---------- MTEX	-.48	-.56	-.29	-.35	-.38	-.37	-.49	-.56	+.52	+.54	-.22	-.31	-.30
MATURITY --------- RATIO	-.61	-.73	-.28	-.43	-.41	-.43	-.62	-.69	+.57	+.59	-.12	-.28	-.32
FIBER STRENGTH:													
HVI 1/8" GAGE ---- G/TEX	+.26	+.30	-.08	+.51	+.45	+.49	+.62	+.60	-.30	-.17	-.15	-.00	+.50
STEL. 1/8" GAGE -- G/TEX	+.34	+.23	+.08	+.81	+.76	+.80	+.64	+.63	-.23	-.05	-.27	-.07	+.70
STEL. ELONGATION -- PCT.	+.06	+.15	-.10	+.27	+.17	+.23	+.45	+.38	+.08	+.04	-.14	-.20	+.34
COLOR OF RAW STOCK:													
GRAYNESS (Rd) ----- PCT.	-.28	-.36	-.34	+.65	+.59	+.63	+.56	+.46	+.46	+.65	-.49	-.73	+.56
YELLOWNESS (+b) -- UNITS	+.01	+.01	+.29	-.63	-.59	-.62	-.65	-.57	-.21	-.42	+.51	+.65	-.55
SUGAR CONTENT ------- PCT.	+.22	+.09	+.18	+.48	+.44	+.47	+.29	+.23	-.16	+.05	-.08	-.02	+.38
SHIRLEY ANALYZER:													
VISIBLE WASTE ----- PCT.	+1.00	+.94	+.72	+.24	+.20	+.22	+.18	+.28	-.40	-.52	+.11	+.44	+.00
TOTAL WASTE ------- PCT.	+.94	+1.00	+.64	+.14	+.11	+.13	+.21	+.29	-.52	-.62	+.16	+.48	-.03
PICKER AND CARD WASTE ---------- PCT.	+.72	+.64	+1.00	+.00	+.03	+.02	-.07	-.01	-.30	-.44	+.26	+.52	-.12
YARN STRENGTH:													
8s (74 TEX) ------ LBS.	+.24	+.14	+.00	+1.00	+.93	+.98	+.80	+.78	+.02	+.22	-.49	-.39	+.82
22s (27 TEX) ------ LBS.	+.20	+.11	+.03	+.93	+1.00	+.98	+.75	+.71	-.03	+.19	-.53	-.37	+.79
AVG. BREAK FACTOR -- NO.	+.22	+.13	+.02	+.98	+.98	+1.00	+.79	+.76	-.00	+.21	-.52	-.38	+.82
YARN ELONGATION:													
8s (74 TEX) ------ PCT.	+.18	+.21	-.07	+.80	+.75	+.79	+1.00	+.86	-.07	+.04	-.36	-.33	+.76
22s (27 TEX) ------ PCT.	+.28	+.29	-.01	+.78	+.71	+.76	+.86	+1.00	-.13	-.08	-.33	-.26	+.68
YARN APPEARANCE:													
8s (74 TEX) ----- INDEX	-.40	-.52	-.30	+.02	-.03	-.00	-.07	-.13	+1.00	+.74	-.37	-.60	-.06
22s (27 TEX) ----- INDEX	-.52	-.62	-.44	+.22	+.19	+.21	+.04	-.08	+.74	+1.00	-.62	-.77	+.25
YARN NEPS:													
8s (74 TEX) ------- NO.	+.11	+.16	+.26	-.49	-.53	-.52	-.36	-.33	-.37	-.62	+1.00	+.68	-.44
22s (27 TEX) ------- NO.	+.44	+.48	+.52	-.39	-.37	-.38	-.33	-.26	-.60	-.77	+.68	+1.00	-.39
SPINNING POTENTIAL --- NO.	+.00	-.03	-.12	+.82	+.79	+.82	+.76	+.68	-.06	+.25	-.44	-.39	+1.00

TABLE 10A.--COTTON: SIMPLE CORRELATION ANALYSIS FOR FIBER AND PROCESSING TEST RESULTS ON CARDED YARNS SPUN ON AN OPEN-END FRAME FROM 34 SHORT STAPLE SAMPLES COLLECTED FROM SELECTED GIN POINTS, CROP OF 1984.

TEST ITEM	YARN PROPERTIES				
	STRENGTH		ELONGATION	APPEARANCE	NEPS
	8s	8s : BR. FACTOR	8s	8s	8s
	SIMPLE CORRELATION COEFFICIENTS (r's)				
CLASSIFICATION:					
GRADE ---------- INDEX	+.01	+.01	-.29	+.46	+.05
STAPLE -------- 32ND IN.	+.53	+.53	+.24	-.18	-.14
FIBER LENGTH:					
UPPER HALF MEAN ---- IN.	+.48	+.48	+.14	-.11	-.14
MEAN/UHM UNIF. ---- PCT.	-.24	-.24	-.19	+.57	+.03
MICRONAIRE ---------- RDG.	-.69	-.69	-.62	+.63	-.00
IIC-SHIRLEY:					
FINENESS ---------- MTEX	-.68	-.68	-.64	+.60	+.06
MATURITY --------- RATIO	-.58	-.58	-.64	+.61	-.07
FIBER STRENGTH:					
HVI 1/8" GAGE ---- G/TEX	+.56	+.56	+.52	-.32	+.27
STEL. 1/8" GAGE -- G/TEX	+.80	+.80	+.44	-.25	+.16
STEL. ELONGATION -- PCT.	+.13	+.13	+.56	-.35	+.18
COLOR OF RAW STOCK:					
GRAYNESS (Rd) ----- PCT.	+.59	+.59	+.32	-.07	-.01
YELLOWNESS (+b) -- UNITS	-.60	-.60	-.53	+.32	-.16
SUGAR CONTENT ------- PCT.	+.56	+.56	+.14	+.05	-.02
SHIRLEY ANALYZER:					
VISIBLE WASTE ----- PCT.	+.36	+.36	+.35	-.17	+.02
TOTAL WASTE ------- PCT.	+.28	+.28	+.42	-.30	-.00
PICKER AND CARD WASTE ---------- PCT.	+.17	+.17	+.16	-.19	-.19
YARN STRENGTH:					
8s (74 TEX) ------ LBS.	+1.00	+1.00	+.59	-.33	+.05
AVG. BREAK FACTOR -- NO.	+1.00	+1.00	+.59	-.33	+.05
YARN ELONGATION:					
8s (74 TEX) ------ PCT.	+.59	+.59	+1.00	-.63	-.05
YARN APPEARANCE:					
8s (74 TEX) ----- INDEX	-.33	-.33	-.63	+1.00	+.16
YARN NEPS:					
8s (74 TEX) ------- NO.	+.05	+.05	-.05	+.16	+1.00

TABLE 11.--COTTON: SIMPLE CORRELATION ANALYSIS FOR FIBER AND PROCESSING TEST RESULTS FROM 161 MEDIUM STAPLE SAMPLES COLLECTED FROM SELECTED GIN POINTS, CROP OF 1984.

TEST ITEM	CLASSIFICATION		FIBER LENGTH		MICRONAIRE	IIC-SHIRLEY FINENESS/MATURITY		1/8" GAGE STRENGTH		STEL. 1/8" ELONGATION	COLOR OF RAW STOCK		SUGAR CONTENT
	GRADE	STAPLE	HVI UHM	M/UHM UNIF.		FIN.	MAT.	HVI	STEL.		Rd	+b	
	SIMPLE CORRELATION COEFFICIENTS (r's)												
CLASSIFICATION:													
GRADE ---------- INDEX	+1.00	+.16	+.23	+.48	+.43	+.21	+.61	+.43	+.61	-.30	+.86	+.17	+.57
STAPLE -------- 32ND IN.	+.16	+1.00	+.89	+.49	+.52	+.41	+.41	+.49	+.34	-.23	-.05	-.29	-.18
FIBER LENGTH:													
UPPER HALF MEAN ---- IN.	+.23	+.89	+1.00	+.57	+.53	+.41	+.47	+.49	+.40	-.23	+.04	-.27	-.09
MEAN/UHM UNIF. ---- PCT.	+.48	+.49	+.57	+1.00	+.63	+.47	+.63	+.49	+.59	-.25	+.31	-.05	+.15
MICRONAIRE ---------- RDG.	+.43	+.52	+.53	+.63	+1.00	+.79	+.87	+.21	+.22	-.37	+.17	-.14	-.12
IIC-SHIRLEY:													
FINENESS ---------- MTEX	+.21	+.41	+.41	+.47	+.79	+1.00	+.53	+.04	-.02	-.23	-.00	-.18	-.21
MATURITY --------- RATIO	+.61	+.41	+.47	+.63	+.87	+.53	+1.00	+.30	+.38	-.46	+.37	-.05	+.09
FIBER STRENGTH:													
HVI 1/8" GAGE ---- G/TEX	+.43	+.49	+.49	+.49	+.21	+.04	+.30	+1.00	+.84	-.24	+.42	+.17	+.17
STEL. 1/8" GAGE -- G/TEX	+.61	+.34	+.40	+.59	+.22	-.02	+.38	+.84	+1.00	-.29	+.61	+.19	+.39
STEL. ELONGATION -- PCT.	-.30	-.23	-.23	-.25	-.37	-.23	-.46	-.24	-.29	+1.00	-.17	+.08	-.07
COLOR OF RAW STOCK:													
GRAYNESS (Rd) ----- PCT.	+.86	-.05	+.04	+.31	+.17	-.00	+.37	+.42	+.61	-.17	+1.00	+.23	+.67
YELLOWNESS (+b) -- UNITS	+.17	-.29	-.27	-.05	-.14	-.18	-.05	+.17	+.19	+.08	+.23	+1.00	+.26
SUGAR CONTENT ------- PCT.	+.57	-.18	-.09	+.15	-.12	-.21	+.09	+.17	+.39	-.07	+.67	+.26	+1.00
SHIRLEY ANALYZER:													
VISIBLE WASTE ----- PCT.	-.64	-.28	-.30	-.27	-.47	-.24	-.57	-.21	-.27	+.18	-.44	-.07	-.09
TOTAL WASTE ------- PCT.	-.69	-.34	-.37	-.38	-.55	-.34	-.63	-.24	-.31	+.24	-.47	-.04	-.15
PICKER AND CARD WASTE ---------- PCT.	-.59	-.31	-.35	-.39	-.37	-.21	-.40	-.34	-.44	+.09	-.45	-.11	-.17
YARN STRENGTH:													
22s (27 TEX) ------ LBS.	+.57	+.43	+.47	+.62	+.21	-.06	+.37	+.82	+.91	-.25	+.54	+.14	+.38
50s (12 TEX) ------ LBS.	+.48	+.47	+.52	+.62	+.19	-.05	+.33	+.82	+.88	-.25	+.46	+.09	+.31
AVG. BREAK FACTOR -- NO.	+.52	+.45	+.50	+.62	+.20	-.06	+.35	+.83	+.90	-.25	+.50	+.12	+.35
YARN ELONGATION:													
22s (27 TEX) ------ PCT.	+.02	+.12	+.11	+.07	-.33	-.36	-.30	+.28	+.30	+.32	+.12	+.03	+.25
50s (12 TEX) ------ PCT.	-.01	+.17	+.14	+.04	-.27	-.29	-.25	+.39	+.30	+.20	+.10	-.00	+.11
YARN APPEARANCE:													
22s (27 TEX) ----- INDEX	+.14	-.00	+.03	+.20	+.25	+.24	+.23	-.09	-.04	+.08	+.06	+.12	+.02
50s (12 TEX) ----- INDEX	+.22	+.16	+.19	+.37	+.26	+.22	+.24	+.19	+.27	-.06	+.11	+.05	+.05
YARN NEPS:													
22s (27 TEX) ------- NO.	+.28	+.26	+.32	+.28	+.13	-.05	+.20	+.40	+.39	-.25	+.26	+.04	+.21
50s (12 TEX) ------- NO.	-.14	+.14	+.16	-.24	+.12	+.12	+.03	-.18	-.22	-.10	-.18	-.18	-.21
SPINNING POTENTIAL --- NO.	+.43	+.50	+.56	+.63	+.16	-.06	+.31	+.75	+.82	-.23	+.39	+.04	+.30

TABLE 11.--CONTINUED

TEST ITEM	SHIRLEY ANALYZER NON-LINT CONTENT: VISIBLE WASTE	SHIRLEY ANALYZER NON-LINT CONTENT: TOTAL WASTE	PICKER & CARD WASTE	YARN PROPERTIES: STRENGTH 22s	STRENGTH 50s	STRENGTH BR. FACTOR	ELONGATION 22s	ELONGATION 50s	APPEARANCE 22s	APPEARANCE 50s	NEPS 22s	NEPS 50s	SPY NO.
	SIMPLE CORRELATION COEFFICIENTS (r's)												
CLASSIFICATION:													
GRADE ---------- INDEX	-.64	-.69	-.59	+.57	+.48	+.52	+.02	-.01	+.14	+.22	+.28	-.14	+.43
STAPLE -------- 32ND IN.	-.28	-.34	-.31	+.43	+.47	+.45	+.12	+.17	-.00	+.16	+.26	+.14	+.50
FIBER LENGTH:													
UPPER HALF MEAN ---- IN.	-.30	-.37	-.35	+.47	+.52	+.50	+.11	+.14	+.03	+.19	+.32	+.16	+.56
MEAN/UHM UNIF. ---- PCT.	-.27	-.38	-.39	+.62	+.62	+.62	+.07	+.04	+.20	+.37	+.28	-.24	+.63
MICRONAIRE ---------- RDG.	-.47	-.55	-.37	+.21	+.19	+.20	-.33	-.27	+.25	+.26	+.13	+.12	+.16
IIC-SHIRLEY:													
FINENESS ---------- MTEX	-.24	-.34	-.21	-.06	-.05	-.06	-.36	-.29	+.24	+.22	-.05	+.12	-.06
MATURITY --------- RATIO	-.57	-.63	-.40	+.37	+.33	+.35	-.30	-.25	+.23	+.24	+.20	+.03	+.31
FIBER STRENGTH:													
HVI 1/8" GAGE ---- G/TEX	-.21	-.24	-.34	+.82	+.82	+.83	+.28	+.39	-.09	+.19	+.40	-.18	+.75
STEL. 1/8" GAGE -- G/TEX	-.27	-.31	-.44	+.91	+.88	+.90	+.30	+.30	-.04	+.27	+.39	-.22	+.82
STEL. ELONGATION -- PCT.	+.18	+.24	+.09	-.25	-.25	-.25	+.32	+.20	+.08	-.06	-.25	-.10	-.23
COLOR OF RAW STOCK:													
GRAYNESS (Rd) ----- PCT.	-.44	-.47	-.45	+.54	+.46	+.50	+.12	+.10	+.06	+.11	+.26	-.18	+.39
YELLOWNESS (+b) -- UNITS	-.07	-.04	-.11	+.14	+.09	+.12	+.03	-.00	+.12	+.05	+.04	-.18	+.04
SUGAR CONTENT ------- PCT.	-.09	-.15	-.17	+.38	+.31	+.35	+.25	+.11	+.02	+.05	+.21	-.21	+.30
SHIRLEY ANALYZER:													
VISIBLE WASTE ----- PCT.	+1.00	+.91	+.67	-.27	-.23	-.25	+.15	+.10	-.14	-.08	-.17	-.03	-.21
TOTAL WASTE ------- PCT.	+.91	+1.00	+.66	-.33	-.28	-.31	+.11	+.11	-.25	-.17	-.11	+.05	-.28
PICKER AND CARD WASTE ---------- PCT.	+.67	+.66	+1.00	-.48	-.46	-.48	-.03	-.11	-.19	-.27	-.16	+.14	-.45
YARN STRENGTH:													
22s (27 TEX) ------ LBS.	-.27	-.33	-.48	+1.00	+.98	+.99	+.43	+.41	+.00	+.36	+.40	-.35	+.93
50s (12 TEX) ------ LBS.	-.23	-.28	-.46	+.98	+1.00	+.99	+.45	+.47	-.02	+.36	+.41	-.34	+.94
AVG. BREAK FACTOR -- NO.	-.25	-.31	-.48	+.99	+.99	+1.00	+.45	+.45	-.01	+.36	+.40	-.34	+.94
YARN ELONGATION:													
22s (27 TEX) ------ PCT.	+.15	+.11	-.03	+.43	+.45	+.45	+1.00	+.58	-.10	+.15	+.06	-.26	+.48
50s (12 TEX) ------ PCT.	+.10	+.11	-.11	+.41	+.47	+.45	+.58	+1.00	-.16	+.05	+.15	-.35	+.42
YARN APPEARANCE:													
22s (27 TEX) ----- INDEX	-.14	-.25	-.19	+.00	-.02	-.01	-.10	-.16	+1.00	+.47	-.27	-.31	+.01
50s (12 TEX) ----- INDEX	-.08	-.17	-.27	+.36	+.36	+.36	+.15	+.05	+.47	+1.00	-.24	-.45	+.40
YARN NEPS:													
22s (27 TEX) ------- NO.	-.17	-.11	-.16	+.40	+.41	+.40	+.06	+.15	-.27	-.24	+1.00	+.29	+.37
50s (12 TEX) ------- NO.	-.03	+.05	+.14	-.35	-.34	-.34	-.26	-.35	-.31	-.45	+.29	+1.00	-.35
SPINNING POTENTIAL --- NO.	-.21	-.28	-.45	+.93	+.94	+.94	+.48	+.42	+.01	+.40	+.37	-.35	+1.00

TABLE 12.--COTTON: MULTIPLE REGRESSION ANALYSIS FOR SELECTED FIBER TEST MEASUREMENTS WITH PROCESSING TESTS, 35 SHORT STAPLE SAMPLES COLLECTED FROM SELECTED GIN POINTS, CROP OF 1984.

COMBINATIONS OF INDEPENDENT VARIABLES	DEPENDENT VARIABLES										
	PICKER & CARD WASTE	STRENGTH			ELONGATION		APPEARANCE		NEPS		SPINNING POTENTIAL
		8s	22s	BR. FACTOR	8s	22s	8s	22s	8s	22s	
GRADE, STAPLE AND MIKE:											
R-SQUARE	0.38	0.31	0.31	0.32	0.40	0.43	0.51	0.62	0.11	0.38	0.31
CONSTANT (a)	+3.93	+158.91	+59.16	+1286.38	+6.18	+9.06	+109.47	+7.12	+95.54	+126.83	-1.99
REGRESSION COEFFICIENTS (b's) FOR:											
GRADE	-0.09	+0.75	+0.24	+5.67	+0.03	+0.01	+0.46	+0.76	-0.41	-5.55	+0.27
STAPLE	+0.34	+3.79	+0.95	+25.57	+0.06	-0.01	-1.90	+0.22	-0.96	+15.19	+1.17
MICRONAIRE	+0.17	-12.66	-4.64	-101.63	-0.80	-0.76	+4.01	+5.42	-2.37	-1.12	-3.61
STANDARD ERROR OF ESTIMATE	1.26	15.66	5.20	116.84	0.62	0.52	7.08	6.91	11.68	76.80	4.82
* * * * * * * * * * *											
GRADE, UHM LENGTH, M/UHM UNIFORMITY, MICRONAIRE, AND HVI 1/8" GAGE STRENGTH:											
R-SQUARE	0.48	0.64	0.60	0.64	0.67	0.60	0.59	0.70	0.50	0.54	0.51
CONSTANT (a)	+4.39	-677.20	-219.37	-5121.87	-21.06	-9.99	+40.77	-214.73	+726.13	+2832.6	+154.55
REGRESSION COEFFICIENTS (b's) FOR:											
GRADE	-0.10	+0.62	+0.20	+4.73	+0.02	+0.01	+0.45	+0.74	-0.32	-5.40	+0.26
UHM LENGTH	+8.72	+100.31	+34.40	+779.60	+0.44	-0.70	-82.24	-1.21	-38.08	+472.03	+30.61
M/UHM UNIFORMITY	+0.19	+11.03	+3.62	+83.95	+0.34	+0.23	+1.03	+2.78	-8.10	-31.39	+1.83
MICRONAIRE	-0.78	-22.31	-7.94	-176.57	-1.00	-0.85	+3.50	+3.79	+4.42	+8.29	-4.38
HVI 1/8" GAGE STRENGTH	-0.36	+1.46	+0.21	+8.18	+0.11	+0.08	+0.43	+0.79	-0.73	-10.88	+0.82
STANDARD ERROR OF ESTIMATE	1.19	11.76	4.09	87.90	0.48	0.45	6.71	6.32	9.09	68.07	4.21

TABLE 12.--CONTINUED

COMBINATIONS OF INDEPENDENT VARIABLES	DEPENDENT VARIABLES										
	PICKER & CARD WASTE	STRENGTH			ELONGATION		APPEARANCE		NEPS		SPINNING POTENTIAL
		8s	22s	BR. FACTOR	8s	22s	8s	22s	8s	22s	
GRAYNESS (Rd), YELLOWNESS (+b), TRASH GRADE, UHM LENGTH, M/UHM UNIFORMITY, MICRONAIRE, AND HVI 1/8" GAGE STRENGTH:											
R-SQUARE	0.42	0.80	0.72	0.79	0.80	0.73	0.65	0.79	0.58	0.76	0.66
CONSTANT (a)	-5.39	-510.50	-160.88	-3811.65	-14.64	-5.80	-16.67	-71.63	+546.61	+950.72	-79.64
REGRESSION COEFFICIENTS (b's) FOR:											
GRAYNESS (Rd)	-0.05	+1.98	+0.50	+13.41	+0.08	+0.06	+1.49	+1.28	-0.43	-9.31	+0.33
YELLOWNESS (+b)	+0.11	-2.15	-0.95	-19.10	-0.11	-0.07	+3.47	-2.36	+4.76	+41.62	-1.43
TRASH GRADE	+0.69	-0.63	-0.56	-8.66	+0.19	+0.17	+0.29	-1.34	-0.43	+7.70	-1.85
UHM LENGTH	+6.73	+139.63	+48.23	+1089.05	+1.90	+0.31	-98.53	+30.85	-80.84	+29.46	+48.39
M/UHM UNIFORMITY	+0.25	+7.22	+2.51	+56.49	+0.18	+0.10	+0.46	+0.30	-5.70	-2.76	+0.79
MICRONAIRE	-1.20	-12.97	-5.14	-108.45	-0.56	-0.55	+6.00	+11.44	-2.05	-69.87	-1.68
HVI 1/8" GAGE STRENGTH	-0.37	+1.18	+0.12	+6.05	+0.08	+0.06	+0.63	+0.42	-0.09	-5.61	+0.76
STANDARD ERROR OF ESTIMATE	1.31	8.96	3.54	69.68	0.39	0.39	6.42	5.47	8.60	50.78	3.64
* * * * * * * * * * * *											
GRAYNESS (Rd), YELLOWNESS (+b), NON-LINT CONTENT, UHM LENGTH, M/UHM UNIFORMITY, MICRONAIRE, STEL. 1/8" GAGE STRENGTH, STEL. ELONGATION, FMT FINENESS, FMT MATURITY, AND SUGAR:											
R-SQUARE	0.58	0.91	0.80	0.88	0.83	0.77	0.73	0.87	0.60	0.80	0.71
CONSTANT (a)	-12.70	-412.10	-139.13	-3178.81	-9.00	-0.68	-89.58	-160.45	+527.17	+766.00	-94.30
REGRESSION COEFFICIENTS (b's) FOR:											
GRAYNESS (Rd)	+0.06	+2.16	+0.47	+13.80	+0.05	+0.10	+2.81	+2.33	-1.17	-15.88	+0.17
YELLOWNESS (+b)	+0.66	+0.42	-0.67	-5.73	-0.12	+0.01	+5.68	-1.17	+3.79	+38.37	-1.16
NON-LINT CONTENT	+0.93	+1.07	-0.04	+3.81	-0.12	+0.00	+2.86	+1.60	-1.21	+2.85	-0.74
UHM LENGTH	-1.40	+49.79	+17.11	+387.40	+3.36	+2.41	-46.30	+81.79	-91.21	-397.04	+38.07
M/UHM UNIFORMITY	-0.05	+4.75	+2.20	+43.17	+0.17	-0.01	-1.60	-0.86	-4.44	+5.66	+0.73
MICRONAIRE	-1.08	-10.63	-4.49	-91.92	-0.26	-0.04	-3.13	-4.69	-7.24	-118.42	-6.16
STEL. 1/8" GAGE STRENGTH	+0.13	+6.75	+2.21	+51.38	-0.03	+0.11	+1.64	+0.14	-1.93	+0.39	+1.10
STEL. ELONGATION	+0.27	-1.12	-2.35	-30.38	+0.26	-0.10	+0.23	+0.28	+4.28	+17.83	+2.70
FMT FINENESS	+0.00	+0.32	+0.02	+1.47	+0.01	+0.01	+0.22	+0.28	+0.02	-0.08	+0.10
FMT MATURITY	+12.44	-35.09	-1.79	-159.99	-5.83	-5.01	+59.42	+74.68	+13.88	+381.83	+11.26
SUGAR	+0.59	-5.80	-8.48	-116.52	+1.36	-2.03	-53.10	-40.40	+39.50	+286.30	+8.04
STANDARD ERROR OF ESTIMATE	1.21	6.71	3.23	57.87	0.38	0.39	6.06	4.76	9.04	50.93	3.66

TABLE 12A.--COTTON: MULTIPLE REGRESSION ANALYSIS FOR SELECTED FIBER TEST MEASUREMENTS WITH PROCESSING TESTS ON CARDED YARNS SPUN ON AN OPEN-END FRAME FROM 34 SHORT STAPLE SAMPLES COLLECTED FROM SELECTED GIN POINTS, CROP OF 1984.

COMBINATIONS OF INDEPENDENT VARIABLES	DEPENDENT VARIABLES				
	STRENGTH		ELONGATION	APPEARANCE	NEPS
	8s	: BR. FACTOR	8s	8s	8s
GRADE, STAPLE AND MIKE:					
R-SQUARE	0.60	0.60	0.41	0.49	0.03
CONSTANT (a)	+150.83	+1206.61	+12.02	+5.77	+21.52
REGRESSION COEFFICIENTS (b's) FOR:					
GRADE	+0.64	+5.16	-0.00	+0.25	+0.02
STAPLE	+3.20	+25.59	-0.07	+1.63	-0.57
MICRONAIRE	-18.06	-144.44	-0.58	+8.30	-0.71
STANDARD ERROR OF ESTIMATE	10.66	85.29	0.43	5.80	3.46
* * * * * * * * * * *					
GRADE, UHM LENGTH, M/UHM UNIFORMITY, MICRONAIRE, AND HVI 1/8" GAGE STRENGTH:					
R-SQUARE	0.69	0.69	0.49	0.53	0.19
CONSTANT (a)	-184.61	-1476.85	+0.38	-160.03	+24.89
REGRESSION COEFFICIENTS (b's) FOR:					
GRADE	+0.68	+5.45	-0.00	+0.24	+0.05
UHM LENGTH	+81.27	+650.16	-2.36	+35.00	-23.46
M/UHM UNIFORMITY	+4.22	+33.73	+0.13	+2.57	-0.36
MICRONAIRE	-21.03	-168.24	-0.61	+4.60	+1.09
HVI 1/8" GAGE STRENGTH	+1.36	+10.89	+0.06	-0.22	+0.85
STANDARD ERROR OF ESTIMATE	9.70	77.61	0.41	5.75	3.29

TABLE 12A.--CONTINUED

COMBINATIONS OF INDEPENDENT VARIABLES	DEPENDENT VARIABLES				
	STRENGTH		ELONGATION	APPEARANCE	NEPS
	8s	: BR. FACTOR	8s	8s	8s
GRAYNESS (Rd), YELLOWNESS (+b), TRASH GRADE, UHM LENGTH, M/UHM UNIFORMITY, MICRONAIRE, AND HVI 1/8" GAGE STRENGTH:					
R-SQUARE	0.82	0.82	0.55	0.62	0.27
CONSTANT (a)	-92.64	-741.08	+1.10	-199.74	+33.24
REGRESSION COEFFICIENTS (b's) FOR:					
GRAYNESS (Rd)	+1.86	+14.84	+0.04	-0.16	-0.14
YELLOWNESS (+b)	-3.48	-27.87	-0.04	+1.63	-0.48
TRASH GRADE	-0.63	-5.02	+0.11	-4.24	-1.64
UHM LENGTH	+106.36	+850.89	-2.10	+24.60	-20.79
M/UHM UNIFORMITY	+1.90	+15.20	+0.08	+3.58	-0.19
MICRONAIRE	-12.22	-97.80	-0.48	+2.66	+0.83
HVI 1/8" GAGE STRENGTH ...	+1.03	+8.24	+0.05	+0.21	+0.94
STANDARD ERROR OF ESTIMATE ...	7.79	62.34	0.40	5.40	3.22
* * * * * * * * * * * * *					
GRAYNESS (Rd), YELLOWNESS (+b), NON-LINT CONTENT, UHM LENGTH, M/UHM UNIFORMITY, MICRONAIRE, STEL. 1/8" GAGE STRENGTH, STEL. ELONGATION, FMT FINENESS, FMT MATURITY, AND SUGAR:					
R-SQUARE	0.87	0.87	0.68	0.58	0.23
CONSTANT (a)	-86.01	-688.10	-0.92	-192.14	+68.13
REGRESSION COEFFICIENTS (b's) FOR:					
GRAYNESS (Rd)	+1.49	+11.95	+0.03	-0.58	-0.53
YELLOWNESS (+b)	-3.62	-28.96	-0.02	+0.92	-0.86
NON-LINT CONTENT	+0.94	+7.52	+0.04	+0.11	-0.72
UHM LENGTH	+52.61	+420.86	+0.51	-26.02	-41.31
M/UHM UNIFORMITY	+1.89	+15.09	+0.08	+4.23	-0.05
MICRONAIRE	-14.89	-119.15	+0.14	-3.63	-1.51
STEL. 1/8" GAGE STRENGTH .	+4.83	+38.66	-0.07	-0.08	+0.60
STEL. ELONGATION	-3.59	-28.73	+0.45	-0.72	+1.16
FMT FINENESS	-0.03	+0.28	-0.01	+0.06	+0.11
FMT MATURITY	+39.97	+319.79	-1.00	+35.23	-13.67
SUGAR	-14.25	-114.03	+1.02	+29.98	+19.54
STANDARD ERROR OF ESTIMATE ...	7.23	57.85	0.36	6.12	3.60

TABLE 13.--COTTON: MULTIPLE REGRESSION ANALYSIS FOR SELECTED FIBER TEST MEASUREMENTS WITH PROCESSING TESTS, 161 MEDIUM STAPLE SAMPLES COLLECTED FROM SELECTED GIN POINTS, CROP OF 1984.

COMBINATIONS OF INDEPENDENT VARIABLES	DEPENDENT VARIABLES										
	PICKER & CARD WASTE	STRENGTH			ELONGATION		APPEARANCE		NEPS		SPINNING POTENTIAL
		22s	50s	BR. FACTOR	22s	50s	22s	50s	22s	50s	
GRADE, STAPLE AND MIKE:											
R-SQUARE	0.39	0.50	0.45	0.48	0.27	0.22	0.09	0.08	0.14	0.07	0.46
CONSTANT (a)	+19.79	-127.44	-79.26	-3383.33	+2.81	+1.06	+114.48	+39.80	-475.53	+661.04	-134.95
REGRESSION COEFFICIENTS (b's) FOR:											
GRADE	-0.08	+1.08	+0.44	+22.86	+0.01	+0.01	+0.03	+0.12	+2.38	-7.15	+0.67
STAPLE	-0.16	+4.77	+2.56	+116.51	+0.12	+0.14	-0.97	+0.25	+13.40	+15.37	+4.61
MICRONAIRE	-0.09	-8.40	-4.07	-194.11	-0.53	-0.48	+4.91	+2.59	-18.09	+84.57	-7.49
STANDARD ERROR OF ESTIMATE	0.96	10.41	5.21	242.48	0.39	0.42	7.98	7.66	64.81	257.03	8.56
* * * * * * * * * * *											
GRADE, UHM LENGTH, M/UHM UNIFORMITY, MICRONAIRE, AND HVI 1/8" GAGE STRENGTH:											
R-SQUARE	0.39	0.81	0.79	0.81	0.32	0.31	0.12	0.14	0.20	0.28	0.75
CONSTANT (a)	+17.91	-345.32	-190.49	-8560.87	-1.99	+1.16	+17.09	-88.86	-593.28	+8112.8	-367.04
REGRESSION COEFFICIENTS (b's) FOR:											
GRADE	-0.07	+0.46	+0.13	+8.24	+0.00	-0.00	+0.08	+0.03	+1.31	-0.81	+0.22
UHM LENGTH	-4.37	+22.64	+19.23	+729.92	+1.82	+1.21	-12.91	-7.54	+256.20	+1837.3	+60.10
M/UHM UNIFORMITY	+0.01	+4.00	+2.02	+94.51	+0.09	+0.02	+1.31	+1.99	+2.62	-116.86	+4.03
MICRONAIRE	-0.11	-8.04	-4.08	-190.41	-0.57	-0.38	+2.64	+0.87	-16.39	+156.20	-9.25
HVI 1/8" GAGE STRENGTH	-0.01	+3.68	+1.79	+85.21	+0.03	+0.09	-0.86	+0.10	+7.17	-17.65	+2.09
STANDARD ERROR OF ESTIMATE	0.96	6.51	3.24	149.17	0.38	0.40	7.90	7.47	62.89	227.89	5.83

TABLE 13.--CONTINUED

COMBINATIONS OF INDEPENDENT VARIABLES	DEPENDENT VARIABLES										
	PICKER & CARD WASTE	STRENGTH			ELONGATION		APPEARANCE		NEPS		SPINNING POTENTIAL
		22s	50s	BR. FACTOR	22s	50s	22s	50s	22s	50s	
GRAYNESS (Rd), YELLOWNESS (+b), TRASH GRADE, UHM LENGTH, M/UHM UNIFORMITY, MICRONAIRE, AND HVI 1/8" GAGE STRENGTH:											
R-SQUARE	0.39	0.80	0.79	0.80	0.34	0.31	0.16	0.17	0.20	0.28	0.75
CONSTANT (a)	+22.34	-379.33	-199.70	-9165.07	-2.98	+2.52	-41.77	-125.30	-683.70	+8576.4	-380.41
REGRESSION COEFFICIENTS (b's) FOR:											
GRAYNESS (Rd)	-0.07	+0.71	+0.25	+14.15	+0.02	+0.00	+0.21	+0.12	+2.11	-1.45	+0.33
YELLOWNESS (+b)	-0.18	+0.09	-0.20	-4.03	-0.00	-0.11	+4.08	+2.03	+0.98	-26.29	-0.22
TRASH GRADE	+0.53	-0.58	+0.04	-5.47	+0.11	-0.01	+2.13	+2.85	-5.57	-30.81	-0.23
UHM LENGTH	-4.16	+27.03	+21.23	+828.16	+2.23	+0.89	+7.22	+3.81	+272.76	+1710.2	+60.78
M/UHM UNIFORMITY	-0.07	+4.19	+2.03	+96.95	+0.08	+0.02	+1.17	+1.82	+3.30	-115.61	+4.13
MICRONAIRE	-0.08	-6.86	-3.68	-167.39	-0.50	-0.41	+4.09	+2.64	-15.55	+134.78	-8.63
HVI 1/8" GAGE STRENGTH	-0.01	+3.61	+1.74	+83.36	+0.03	+0.09	-1.21	-0.02	+6.67	-16.40	+2.09
STANDARD ERROR OF ESTIMATE	0.98	6.66	3.24	150.40	0.37	0.40	7.75	7.37	63.13	228.84	5.91
* * * * * * * * * * * *											
GRAYNESS (Rd), YELLOWNESS (+b), NON-LINT CONTENT, UHM LENGTH, M/UHM UNIFORMITY, MICRONAIRE, STEL. 1/8" GAGE STRENGTH, STEL. ELONGATION, FMT FINENESS, FMT MATURITY, AND SUGAR:											
R-SQUARE	0.54	0.87	0.85	0.86	0.45	0.32	0.19	0.17	0.27	0.30	0.82
CONSTANT (a)	+16.08	-191.07	-121.20	-5131.71	+0.67	+1.74	-22.78	-41.53	-601.92	+7788.6	-237.87
REGRESSION COEFFICIENTS (b's) FOR:											
GRAYNESS (Rd)	-0.03	-0.12	-0.05	-2.41	-0.00	+0.01	-0.14	-0.38	+2.92	+8.69	-0.33
YELLOWNESS (+b)	-0.16	+0.39	+0.05	+5.56	-0.07	-0.07	+2.42	+0.51	+8.97	-13.33	-0.35
NON-LINT CONTENT	+0.69	-0.96	-0.29	-17.73	-0.02	+0.01	-1.73	-0.59	+8.86	+51.96	-1.00
UHM LENGTH	-1.85	+38.14	+27.59	+1109.32	+1.80	+1.99	-18.44	-17.81	+421.64	+1861.9	+61.90
M/UHM UNIFORMITY	-0.05	+2.32	+1.29	+57.71	+0.06	+0.01	+1.51	+1.33	+4.13	-117.33	+2.92
MICRONAIRE	-0.62	-1.41	-0.58	-29.92	+0.05	+0.06	-0.38	+0.17	+50.03	+250.62	-4.65
STEL. 1/8" GAGE STRENGTH	-0.11	+4.69	+2.16	+105.55	+0.06	+0.07	-0.72	+1.06	+1.08	-18.56	+2.94
STEL. ELONGATION	-0.21	-0.22	-0.40	-12.40	+0.24	+0.15	+2.59	+1.28	-25.44	-46.23	-0.58
FMT FINENESS	+0.01	-0.16	-0.09	-3.97	-0.01	-0.01	+0.07	+0.09	-1.79	-1.81	-0.14
FMT MATURITY	+4.17	-0.53	-6.08	-157.91	-2.04	-2.01	+11.07	+1.20	-182.28	-253.05	-0.13
SUGAR	+0.48	+8.79	-0.00	+96.63	+0.84	-0.13	+4.38	+4.96	+49.81	-107.83	+7.62
STANDARD ERROR OF ESTIMATE	0.86	5.55	2.83	127.67	0.35	0.40	7.73	7.47	61.19	229.13	5.07

DESCRIPTION OF STATISTICS USED IN ANALYSIS

Some of the statistical concepts used in this study may be unfamiliar to many who will find the information in this report useful. Results reported in this study include the means, standard deviations, simple correlations, regression equations and coefficients of determination (R-squares). Formulas for each of these results may be found in any good textbook on statistical correlation. However, for those not familiar with these concepts, the following common language explanation is given for each item as it is used in this report:

A. MEAN VALUE is the simple arithmetical average of each measured property for the spinning lots included in the study.

B. STANDARD DEVIATION is a measure of dispersion around the mean value expressed in the same terms as the variable. For a normal distribution, approximately 68 percent of the values will be within plus or minus one standard deviation of the mean; 95 percent within plus or minus two standard deviations; and nearly all values will be within plus or minus three standard deviations.

> Example: (From Table 9, page 62) The mean or average HVI upper half mean length for the short staple cottons is 0.962 inch. The standard deviation is 0.041 inch. This indicates that 68 percent of the lots tested in the short staple group should have a fiber length between 0.921 and 1.003 inch. The fiber length of 95 percent of the lots tested fall between 0.880 and 1.044 inches and nearly all would be between 0.839 and 1.085 inches.

C. SIMPLE CORRELATION COEFFICIENT (r) is a measure of the linear relationship between two variables, i.e., how one variable is associated with the other. A correlation coefficient of 0 indicates no relationship, and 1.0 indicates a perfect relationship. A plus sign before the correlation coefficient indicates that the value of both variables change in the same direction, whereas a minus sign indicates that they change in opposite directions.

> Example: (From Table 11, page 69, line 1) The simple correlation coefficient of the grade index with picker and card waste is -.59. This indicates that grade and picker and card waste are inversely related, i.e., as one goes up or down, the other goes in the opposite direction.

D. REGRESSION EQUATION or prediction equation is used to estimate changes in the dependent variable which will result from changes in the independent variable or variables. It is written:

$$Y = a + b_1 X_1 + b_2 X_2 + \ldots + b_n X_n$$

where Y is the dependent variable and the X's are the independent variables.

The constant "a" indicates the starting point or height of the regression line when it is to be plotted on a graph or used in calculating changes in the dependent variable. The regression coefficient "b" indicates the directional change in the dependent variable that is associated with changes in the independent variable. The spread or scatter of the data around the regression line is measured by the standard error. The standard error has the same relationship to the regression line as the standard deviation has to the mean value (see paragraph B, above).

Example: (From Table 13, page 74) Using 22s yarn strength as the dependent variable and grade plus HVI measurement as the independent variables, the constant, regression coefficients and standard error for the regression equation are:

Constant (a)	-345.32
Regression Coefficients (b):	
Grade	+0.46
UHM Length	+22.64
M/UHM Uniformity	+4.00
Micronaire	-8.04
HVI 1/8" Gage Strength	+3.68
Standard Error	+/-6.51

With regression coefficients (b's) of +0.46 for grade, +22.64 for HVI length, +4.00 for HVI uniformity, -8.04 for mike and +3.68 for HVI 1/8-inch gage strength, the following average conditions should exist:

(1) With any unit changes (1.0 in grade), yarn strength should change 0.46 pounds in the same direction.

(2) With any unit changes (0.01 in length), yarn strength should change 0.23 pounds in the same direction.

(3) With a 1.0 unit increase in uniformity, yarn strength should increase 4.0 pounds.

(4) If the mike increases 0.1 unit, the yarn strength should decrease 0.8 pounds.

(5) With a 1.0 unit increase in fiber strength, yarn skein strength should increase 3.7 pounds.

D. REGRESSION EQUATION (continued)

Expressing the equation algebraically:

$$\begin{aligned}\text{Yarn strength 22s (lbs)} = {} & -345.32 + 0.46(\text{grade index}) + 22.64(\text{HVI length}) \\ & + 4.00(\text{HVI uniformity}) - 8.04(\text{micronaire}) \\ & + 3.68(\text{HVI 1/8-inch gage strength})\end{aligned}$$

To predict the yarn strength from a bale of cotton with a grade of Middling (100 grade index), a length of 1.05 inches, a uniformity of 80, a micronaire of 4.0 and a strength of 25 grams per tex, set up and solve the equation as follows:

$$\begin{aligned}\text{Yarn strength (lbs)} = {} & -345.32 + 0.46(100) + 22.64(1.05) \\ & + 4.00(80) - 8.04(4.0) + 3.68(25)\end{aligned}$$

$$\text{Yarn strength (lbs)} = 104.29$$

The standard error can be used to establish a lower and upper limit about the predicted value. In this example, the standard error of 6.51 indicates that yarn strength from a bale of cotton with these fiber properties should be 104.29 +/- 6.51 pounds or between 98 and 111 pounds 68 percent of the time.

Regression equations are given in the tables for simple and multiple relationships. Equations for simple relationships may be calculated by using the formula:

$$Y = a + bX$$

$$\text{where } a = \text{Mean } Y - b\ (\text{Mean } X)$$

$$b = r \frac{\text{Std. Dev. } Y}{\text{Std. Dev. } X}$$

Estimating an equation with more than one independent variable is more complex. Most statistical textbooks describe the method for estimating multivariate equations.

E. R-SQUARE (R^2) when multiplied by 100 will give the coefficient of determination. The resulting percentage is the amount of the variation in the dependent variable explained by the independent variable(s). In the above example, $R^2 = .81$; therefore, 81% of the variation in yarn strength is explained by grade, UHM length, M/UHM uniformity, micronaire and HVI 1/8-inch gage strength. The remaining variation in yarn strength (19%) is unexplained by the five independent variables in this equation.

E. R-SQUARE (continued)

For simple regressions (equations containing one independent variable) the coefficient of determination can be obtained easily by squaring the simple correlation coefficient (r) and multiplying by 100.

The multiple correlation coefficient (R) can be obtained by taking the square root of R-square. This coefficient is a measure of the linear relationship between one dependent variable and one or more independent variables. It has no plus or minus sign because one independent variable may contribute positively, and another negatively, in explaining the variation in the dependent variable. The multiple R may fall between 0 and 1.0, with 0 indicating no relationship and 1.0 a perfect relationship.

INTERPRETING STATISTICAL DATA

In referring to the data presented in the tables of this report, it is well to keep in mind several factors which influence the results and could lead to erroneous conclusions.

Results obtained from regression analysis are significantly influenced by the specific variables included in an equation and by their number. This is mainly due to interrelationships of fiber properties. As interrelated properties (independent variables) are added to an equation, the specific contribution of a given property may decrease sharply while at the same time the overall correlation will increase. For example, a correlation of staple length with yarn strength usually shows a good relationship, with a large amount of the variation in yarn strength explainable by differences in staple length. But as other measures are taken into consideration, particularly fiber strength at 1/8-inch gage, the importance of staple length in explaining the total variation in yarn strength decreases rather sharply; even though the total variation explained is increased. This situation occurs because fiber strength is more closely related to yarn strength than is staple length. Yet when fiber strength is not included in the equation, some of the effects of strength are evidenced through the interrelation of strength and staple length. Perhaps the most important fact to keep in mind is that interpretations are no better than the principles used in the analysis. To estimate the importance of a specific variable, all of the available data should be studied using the appropriate statistical techniques.

BASIS FOR INTERPRETATION OF TEST RESULTS

The following explanation of the data published in Tables 1 through 8 of this report may be helpful in the interpretation of test results.

Classification

Classification was made in accordance with the official Cotton Standards for grade and staple length. These results are presented under the usual terms for the individual lots, but the grade values were converted to an index for averaging in the summary tables.

Grade index, as reported in the summary tables, is designed to reflect differences in market value and provides a method for averaging the grade for a number of individual lots. Middling grade is used as the basis of 100, and higher or lower index numbers reflect higher or lower average market values, respectively. Index values for the various grades of upland cotton are shown below.

GRADE		GRADE INDEX						
Name	Code	Plus (0)	White (1)	Light Spotted (2)	Spotted (3)	Tinged (4)	Light Gray (6)	Gray (7)
Good Middling	(1)		105	103	101		99	93
Strict Middling	(2)		104	102	99	91	98	91
Middling	(3)	102	100	97	93	82	92	84
Strict Low Middling	(4)	97	94	89	83	75	85	75
Low Middling	(5)	90	85	80	75	68		
Strict Good Ordinary	(6)	81	76	71	66			
Good Ordinary	(7)	73	70					
Below Grade	(8)		60					

The GRADE of cotton is obtained by evaluating color, leaf and preparation in relation to the official standards. Grade provides an indication of fiber color and the waste content of a sample of cotton. Experience has shown the average relationship between picker and card waste and various grades of upland cotton to be approximately as given in the tabulation shown in the subsequent section on manufacturing waste.

In comparing these average grade figures with the picker and card waste data, it should be understood that variations from the averages for individual samples are attributable to the nature of the extraneous material present in the cotton, the characteristics of the fiber, and whether the grade designation was low because of poor color.

STAPLE LENGTH is the length of a typical portion of the fibers in the samples as determined by the classer or a High Volume Instrument line in comparison with offical standards. Uniformity of fiber length, as well as other fiber properties influences to to some extent the classer's selection of the typical portion of the fibers on which the staple length designation is based. In general, there is a fairly close relationship between the staple length as designated by the classer and the fineness and strength of the yarn that can be manufactured from the cotton. These relationships, however, are also influenced by other fiber properties, the measurement of which will be discussed in the paragraphs which follow.

Fiber Tests

FIBER LENGTH and length uniformity data were obtained from a Motion Control High Volume Instrument system for short, medium and long staple American upland samples and by the Digital Fibrograph method for the extra long American Pima and upland samples.

The Fiber Length Analyzer on the Motion Control HVI measures the length and length uniformity of a specimen of cotton pneumatically. A prepared specimen is mechanically lowered into an orifice in the Fiber Length Analyzer, where air is pulled around the sample. The specimen is slowly removed from the orifice, causing a change in air pressure. The analyzer determines the upper half mean length and the mean length of the sample by analyzing this change in air pressure.

The upper half mean length is the average length of the longest one-half of the fibers by weight. Upper half mean length is an indicator of yarn strength and spinning efficiency. These length values are closely related to the classer's staple.

Length uniformity is a measure of the degree of uniformity of fibers in a sample. It is expressed as an index of the mean/upper half mean length ratio. Fiber uniformity is related to spinning efficiency, yarn uniformity and yarn strength.

The terms listed below may be helpful in interpreting the results:

Upper Half Mean Length	
Below 0.97	Short
0.97 - 1.10	Medium
1.11 - 1.28	Long
Above 1.28	Extra Long

M/UHM Uniformity Index	
Below 77	Very Low
77 - 79	Low
80 - 82	Average
83 - 85	High
Above 85	Very High

Briefly, the Digital Fibrograph method consists of placing representative specimens of cotton at random on a comb or combs, parallelizing the beards of cotton extending from one side of the combs, and scanning these beards photoelectrically on the instrument at three length intervals beginning at 0.15 inch from the teeth of the combs and ending near the outer fringe.

The Digital Fibrograph 2.5 percent span length values reported indicate the length which will be spanned by 2.5 percent of the fibers when they are parallel and randomly distributed. It is also the length where the amount of fibers indicated by the instrument is 2.5 percent of the amount at the starting point of 0.15 inch.

The Digital Fibrograph 50/2.5 uniformity ratio values reported indicate the relative uniformity of fiber length in the samples. They represent the ratios between the 50 percent span length and 2.5 percent span length, expressed as percentages.

The following adjective descriptions will serve to classify cottons from the standpoint of 2.5% span length and fiber length uniformity.

2.5 Percent Span Length	
Below 0.97	Short
0.97 - 1.09	Medium
1.10 - 1.28	Long
Above 1.28	Extra Long

50/2.5 Uniformity Ratio	
Below 40	Very Low
40 - 42	Low
43 - 45	Average
46 - 48	High
Above 48	Very High

FIBER FINENESS AND MATURITY (reference ASTM D 3818). Fiber fineness or linear density and maturity affect mill processing performance and the quality of the end products. Linear density determines the number of fibers per cross-section for a prescribed yarn number, thereby affecting drafting characteristics, yarn strength, and yarn evenness. Maturity affects processing because immature fibers break easily during processing, have a tendency to form neps, and have a tendency to become entangled around particles of trash and leaf. This makes cleaning more difficult and increases the amount of fiber removed with foreign matter. It adversely affects yarn and fabric appearance, which may appear differently after dyeing.

Several instruments, including the Fibronaire, Micronaire, IIC-Shirley Fineness/Maturity Tester, and Port-Ar, may be used for these tests. This survey reports results from fineness and maturity tests from two of these instruments, the Fibronaire and and IIC-Shirley Fineness/Maturity Tester.

Fiber fineness and maturity in combination were determined by the micronaire test. This is an instrument test which measures the resistance of a plug of cotton to air flow. From 47 to 52 grains of cotton are placed in the instrument specimen holder and compressed to a fixed volume. Air at a known pressure is forced through the specimen and the amount of flow is indicated by a direct reading scale. Readings obtained are relative measures of either the weight per unit length or the cross-sectional size of the fibers. Because the instrument measures may differ from the actual weight per inch, depending upon the fiber characteristics of the sample, the results are reported in terms of "micronaire reading" instead of micrograms per inch. These readings, which are in international use, are taken from the curvilinear scale adopted in 1950. The micronaire reading is now a part of the official standards for upland cotton along with grade and staple length.

The IIC-Shirley Fineness/Maturity Tester (FMT) operates on the dual compression principle.* The instrument registers pressure drop across the specimen under two defined conditions of airflow and sample density. Use of the readings in the following empirically established equations permits the estimation of maturity and fineness.

$$\text{Maturity ratio} = 0.247(P_L)^{0.125}(P_H/P_L)^2$$

$$\text{Fineness, (millitex)} = (6000/P_L)(P_H/P_L)^{1.75}$$

where P_L = pressure drop at lower sample density and higher flow rate

P_H = pressure drop at higher sample density and lower flow rate

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*THE MEANING AND ASSESSEMENT OF COTTON FIBRE FINENESS by H. H. Ramey, Jr., for the Technical Research Division, International Institute for Cotton, 1982, p. 16.

U.S. upland cotton with a maturity ratio falling into the following ranges can be described as:

Maturity Ratio Ranges	Maturity Description U.S. Upland Cotton
1.00 and more	Very mature
0.95 - 1.00	Above average
0.85 - 0.95	Mature
0.80 - 0.85	Below average
0.70 - 0.80	Immature
Less than 0.70	Uncommon

Data Source: THE ORIGIN AND ASSESSMENT OF COTTON FIBRE MATURITY by E. Lord for the Technical Research Division, International Institute for Cotton, 1975, p. 10.

FIBER STRENGTH is an important factor in determining yarn strength. Cottons with good fiber strength usually give less trouble in the manufacturing process than the weak-fibered cottons. Tests for fiber strengths are made with a 1/8-inch spacer between the clamp jaws (1/8-inch gage) using the Stelometer and the Motion Control High Volume Instrument (HVI). The Stelometer also provides a measure of fiber elongation. Comparative tests have shown that the results of the 1/8-inch gage tests are more highly correlated with yarn strength than are the results of zero gage tests.

The results of Stelometer 1/8-inch gage tests are reported in terms of grams per tex in accordance with the recommendations of the American Society for Testing and Materials (ASTM) and the International Standards Organization (ISO). A tex unit is equal to the weight in grams of 1,000 meters of the material. There is a correlation between the 1/8-inch gage strength test results and the fiber length. Short staple cottons tend to have lower average strength values than long staple cottons.

Results for 1/8-inch gage tests are calculated by the use of formulas 1 or 2, depending on the instrument used. Stelometer results are adjusted to Pressley level by use of calibration cottons.

1. Pressley instrument-grams per tex (g/tex) =

$$\frac{\text{breaking load (lb)} \times 6.80}{\text{bundle weight (mg)}}$$

2. Stelometer instrument-grams per tex (g/tex) =

$$\frac{\text{breaking load (kg)} \times 15}{\text{bundle weight (mg)}}$$

The following terms may be applied to fiber strength:

Descriptive Designation	1/8-Inch Gage Strength (Grams per Tex)
Very Weak	17 and Below
Weak	18 - 21
Average	22 - 25
Strong	26 - 29
Very Strong	30 and Above

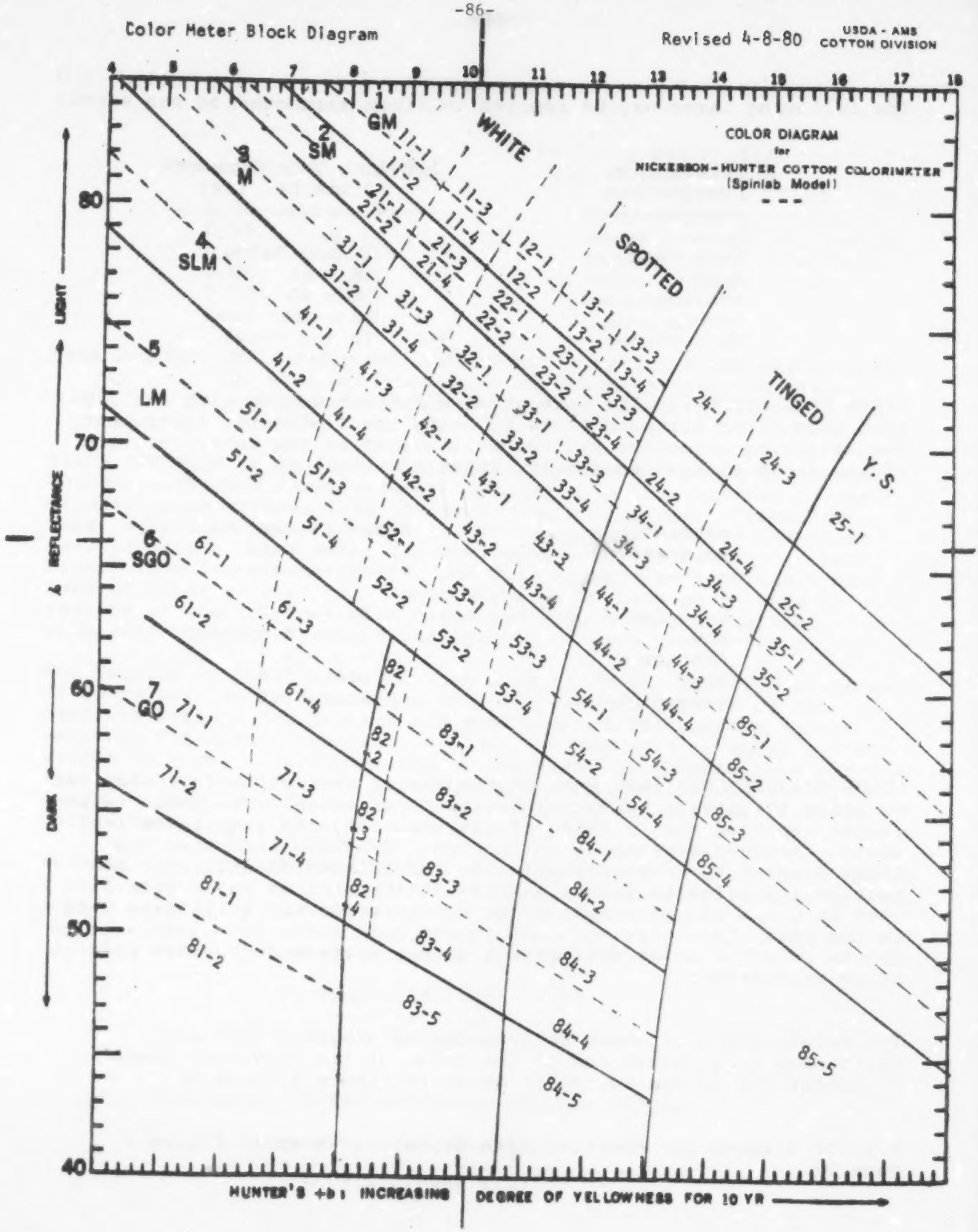
FIBER ELONGATION results were obtained in connection with the 1/8-inch gage fiber strength tests by using the Stelometer instrument. The following adjective ratings will assist in the interpretation of the fiber elongation results reported:

Descriptive Designation	Fiber Elongation (Percent)
Very Low	Below 5.0
Low	5.0 - 5.8
Average	5.9 - 6.7
High	6.8 - 7.6
Very High	Above 7.6

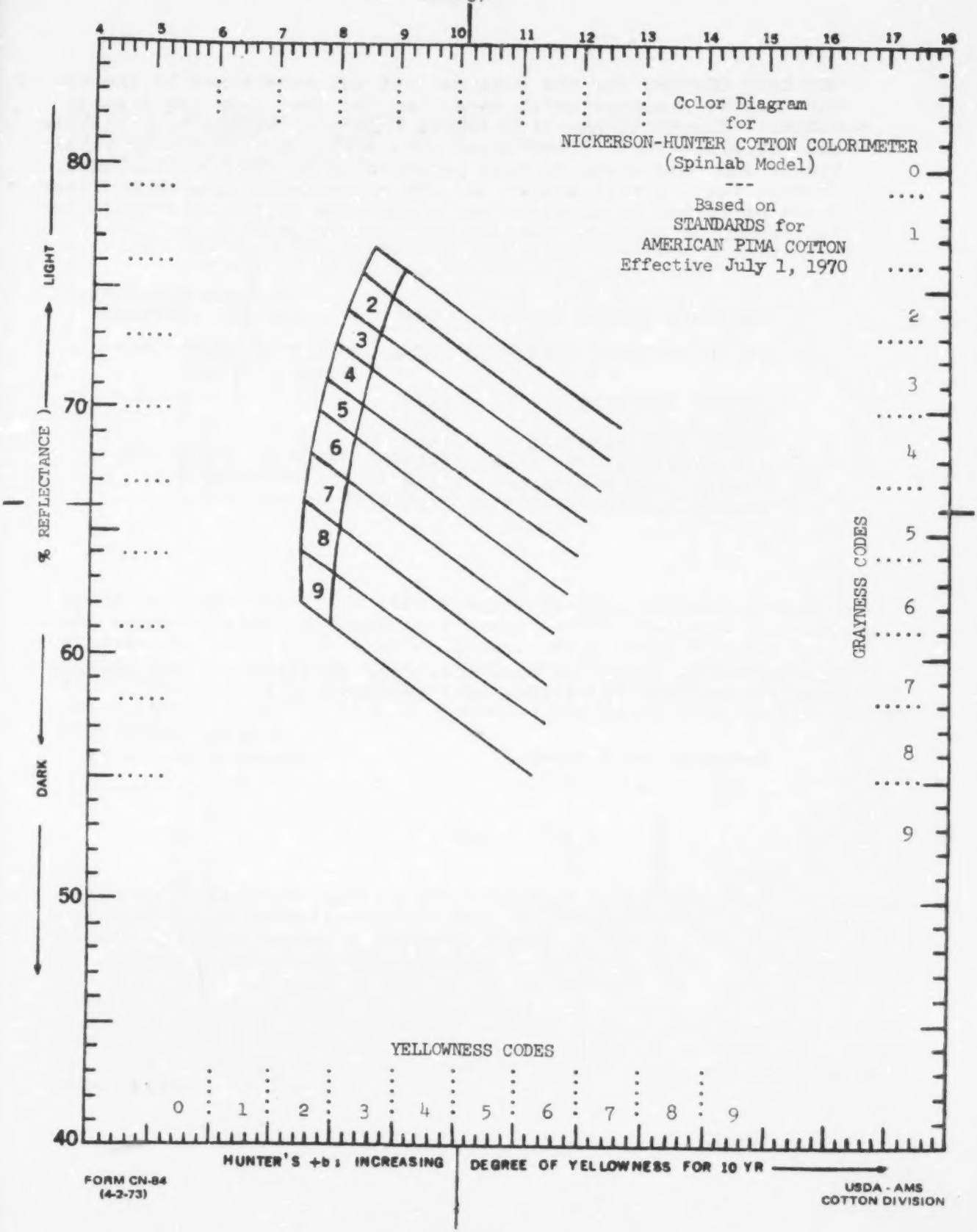
COLOR MEASUREMENTS were made on samples of raw cotton from each lot by using the Nickerson-Hunter Cotton Colorimeter. The basic color values reported are in terms of grayness (Rd) and yellowness (+b) scales designed especially for cotton. GRAYNESS indicates how light or dark the cotton sample is, and YELLOWNESS indicates how much yellow color is in the sample. A three-digit color code is used in place of the single codes for grayness and yellowness used in the past. The color code subdivides each grade into quadrants to denote relative color differences within a grade for a more precise color measurement.

The relationship of these color codes to grayness (Rd) and yellowness (+b) values and to the color of the Universal Grade Standards for upland cotton is shown in Figure 2, page 86.

A color diagram for American Pima cotton is shown in Figure 3, page 87.


Color Meter Block Diagram
Revised 4-8-80
USDA - AMS
COTTON DIVISION
COLOR DIAGRAM
for
NICKERSON-HUNTER COTTON COLORIMETER
(Spinlab Model)
WHITE
SPOTTED
TINGED
Y.S.
1 GM
2 SM
3 M
4 SLM
5 LM
6 SGO
7 GO
11-1
11-2
11-3
11-4
12-1
12-2
13-1
13-2
13-3
13-4
21-1
21-2
21-3
21-4
22-1
22-2
23-1
23-2
23-3
23-4
24-1
24-2
24-3
24-4
25-1
25-2
31-1
31-2
31-3
31-4
32-1
32-2
33-1
33-2
33-3
33-4
34-1
34-2
34-3
34-4
35-1
35-2
41-1
41-2
41-3
41-4
42-1
42-2
43-1
43-2
43-3
43-4
44-1
44-2
44-3
44-4
85-1
85-2
85-3
85-4
85-5
51-1
51-2
51-3
51-4
52-1
52-2
53-1
53-2
53-3
53-4
54-1
54-2
54-3
54-4
61-1
61-2
61-3
61-4
71-1
71-2
71-3
71-4
81-1
81-2
82-1
82-2
82-3
82-4
83-1
83-2
83-3
83-4
83-5
84-1
84-2
84-3
84-4
84-5
80
70
60
50
40
LIGHT
REFLECTANCE
DARK
HUNTER'S +b : INCREASING
DEGREE OF YELLOWNESS FOR 10 YR

(Figure 2)


Color Diagram
for
NICKERSON-HUNTER COTTON COLORIMETER
(Spinlab Model)

Based on
STANDARDS for
AMERICAN PIMA COTTON
Effective July 1, 1970
% REFLECTANCE
LIGHT
DARK
GRAYNESS CODES
YELLOWNESS CODES
HUNTER'S +b : INCREASING
DEGREE OF YELLOWNESS FOR 10 YR
FORM CN-84
(4-2-73)
USDA - AMS
COTTON DIVISION

(Figure 3)

NON-LINT CONTENT for the various lots was determined by the use of the Shirley Analyzer which separates the lint from the foreign matter. The total non-lint values reported include both visible and invisible loss. These results are distinguished from total picker and card waste in that practically no fiber is included, whereas textile mill wastes include appreciable amounts of fiber. Tests performed in previous years show the following average relationship of Shirley Analyzer non-lint to grade:

American Upland Grade	Code	Average Non-lint Content (Percent)
Strict Middling	(21)	1.9
Middling	(31)	2.3
Strict Low Middling	(41)	3.1
Low Middling	(51)	4.3
Strict Good Ordinary	(61)	5.5
Good Ordinary	(71)	7.8

The following scale has been developed to represent the average non-lint content for grades of American Pima cotton:

American Pima Grade	Average Non-lint Content (Percent)
2	2.8
3	2.9
4	3.4
5	3.9
6	4.7
7	5.8
8	7.7
9	9.1

Differences between results obtained for individual lots and the average percentages shown for the grades may be due to one or more of the following reasons:

(1) Grade is a combination of color, leaf and preparation; any one of which may be the limiting factor.

(2) There is a combination of trash allowable within each specific grade.

(3) These data are based on weight and do not take into consideration the nature of the trash, which may be as important as weight in determining the final grade.

SUGAR CONTENT (Potassium Ferricyanide Testing Method) determines the sugar content as based on a quantitative analysis of reducing substances (sugars) on cotton fibers. High sugar content in cotton can be caused by fiber immaturity, insect secretions, or excessive amounts of natural sugars in mature cotton. Cottons with sugar contents higher than 0.3 percent may cause textile processing problems.

Yarn Processing Tests

Small-scale spinning tests were performed to provide indications of the processing behavior of the various cottons. The percentage of picker and card waste is related to mill turnout. Low percentages of waste indicate high mill turnout. Yarn strength, yarn appearance, and the number of neps in the yarns as measured in these tests are related to similar quality measurements of the mill product. The spinning potential test provides a measure of spinning end breakage and is directly related to the spinning behavior in the mill. High spinning potential yarn (SPY) numbers indicate low end breakage or good spinning in the mill.

MANUFACTURING WASTE reported for a sample of cotton is important because excessive waste increases the cost of cotton products. The percentage of waste extracted by the picking and carding processes in performing a spinning test provides a measure of manufacturing waste. There is an average relationship between this waste and grade as discussed in the previous section on the grade of cotton. The rate at which the cotton is carded, however, affects the picker and card waste values because the more thorough carding action obtained when the carding rate is decreased extracts a larger quantity of waste. The longer staple cottons are generally carded at a lower rate than the shorter cottons in order to obtain acceptable yarn quality. Tests performed in recent years show the following average relationship of picker and card waste to grade:

American Upland Grade	Code	Average Picker and Card Waste (Percent)
Strict Middling	(21)	5.9
Middling	(31)	6.1
Strict Low Middling	(41)	6.7
Low Middling	(51)	7.5
Strict Good Ordinary	(61)	8.4
Good Ordinary	(71)	10.0

American Pima Grade	Average Picker and Card Waste (Percent)
2	7.3
3	7.4
4	7.7
5	8.0
6	8.4
7	9.1
8	10.2
9	11.0

The percentage of waste removed by the comber is reported in addition to the picker and card waste for cottons processed into combed yarn. The shorter staple cottons are processed through the comber with a closer setting than for the longer staple cottons because smaller comber waste percentages are usually extracted from this cotton in commercial practice.

YARN STRENGTH is perhaps the most important and reliable test of yarn quality. Yarn strength not only determines the range of the usefulness of a given cotton, but is also an indication of spinning and weaving performance. The yarn strength test is performed on 120 yard skeins (80 turns on a 1.5 yard reel). Results reported are based on the average of 25 skeins for each yarn number. Yarn strength is reported in terms of skein strength, since studies have shown that such strength values are more closely related to fabric strength as well as to fiber properties than single strand yarn strength. Skein strength data for the two numbers spun are reported for each lot. Length, strength and fineness influence yarn strength more than other fiber properties.

The following descriptive terms may be of help in determining the relative level of yarn strength in this report:

Kind of Yarn, Staple Length Group and Description	Yarn Skein Strength in Pounds for the Specified Yarn Numbers	
Carded Yarns:		
Short Staple Group:	8s	22s
Low	266 - 286	83 - 91
Average	287 - 307	92 - 100
High	308 - 328	101 - 109
Medium Staple Group:	22s	50s
Low	85 - 99	26 - 32
Average	100 - 114	33 - 39
High	115 - 129	40 - 46
Long Staple Group:	22s	50s
Low	89 - 103	25 - 33
Average	104 - 118	34 - 42
High	119 - 133	43 - 51
Combed Yarn:		
Long Staple Group:	22s	50s
Low	113 - 125	37 - 43
Average	126 - 138	44 - 50
High	139 - 151	51 - 57
Extra Long Staple Group:	50s	80s
Low	62 - 64	31 - 33
Average	65 - 67	34 - 36
High	68 - 70	37 - 39

YARN ELONGATION results were obtained in connection with yarn skein strength tests. Elongation in the yarn is highly correlated with fiber elongation. Yarns with high elongation give less end breakage in weaving than yarns with low elongation.

The following descriptive terms may be of some help in determining the relative levels of yarn elongation:

Kind of Yarn, Staple Length Group and Description	Yarn Elongation in Percent for the Specified Yarn Numbers	
Carded Yarns:		
Short Staple Group:	8s	22s
Low	6.4 - 7.2	5.7 - 6.3
Average	7.3 - 8.1	6.4 - 7.0
High	8.2 - 9.0	7.1 - 7.7
Medium Staple Group:	22s	50s
Low	5.2 - 5.8	3.8 - 4.4
Average	5.9 - 6.5	4.5 - 5.1
High	6.6 - 7.2	5.2 - 5.8
Long Staple Group:	22s	50s
Low	5.1 - 5.7	3.8 - 4.4
Average	5.8 - 6.4	4.5 - 5.1
High	6.5 - 7.1	5.2 - 5.8
Combed Yarn:		
Long Staple Group:	22s	50s
Low	5.9 - 6.3	4.6 - 5.0
Average	6.4 - 6.8	5.1 - 5.5
High	6.9 - 7.3	5.6 - 6.0
Extra Long Staple Group:	50s	80s
Low	5.1 - 5.5	4.7 - 4.9
Average	5.6 - 6.0	5.0 - 5.2
High	6.1 - 6.5	5.3 - 5.5

YARN APPEARANCE refers to the relative evenness, smoothness, and freedom from foreign material of the yarn as evaluated by visual comparison of the yarn with the latest standards adopted by the American Society for Testing and Materials (ASTM). Since appearance is very important in many types of cotton products, high yarn appearance grades are desirable. The following descriptive terms may be of help in determining the relative levels of yarn appearance in this report.

Kind of Yarn, Staple Length Group and Description	Yarn Appearance Index for the Specified Yarn Numbers	
Carded Yarns:		
Short Staple Group:	8s	22s
Low	101 - 111	91 - 103
Average	112 - 122	104 - 116
High	123 - 133	117 - 129
Medium Staple Group:	22s	50s
Low	73 - 86	55 - 63
Average	87 - 101	64 - 72
High	102 - 116	73 - 81
Long Staple Group:	22s	50s
Low	84 - 98	57 - 69
Average	99 - 113	70 - 82
High	114 - 128	83 - 95
Combed Yarn:		
Long Staple Group:	22s	50s
Low	112 - 120	88 - 100
Average	121 - 129	101 - 113
High	130 - 138	114 - 126
Extra Long Staple Group:	50s	80s
Low	108 - 116	96 - 106
Average	117 - 125	107 - 117
High	126 - 134	118 - 128

Yarn Appearance Grades

Grade	Index
A	130
B+	120
B	110
C+	100
C	90
D+	80
D	70
Below D	60

YARN NEPS are reported for the two yarn numbers spun for each lot of cotton. These results were obtained on a Uster Tester II, Model B. This is an electronic instrument which detects and counts neps in yarn. The yarn is drawn through a set of condenser plates, approximately 0.315 in. in length. These plates create an electrical field which counts the neps when the yarn oversteps or understeps present limiting values. Yarn nep tests are made at a constant speed of 100 yards per minute for two and one-half minutes, for a total of 250 yards tested per observation. Four observations are made for each test. This gives a total of 1,000 yards of yarn tested for each spinning lot. Insufficient data has been collected to develop descriptive terms for determining relative levels of yarn neps.

SPINNING POTENTIAL YARN NUMBER indicates the finest yarn number that can be spun from a cotton sample without any end breakage when using specific processing procedures. In performing these tests, new travelers, draft gears, and twist gears are installed for the selected yarn number and it is spun for a 15-minute trial period. The yarn number selected is considered acceptable if there is an end breakage involving 5 to 15 of the 96 spindles employed during the trial run. If end breakages occur on less than 5 or more than 15 of the 96 spindles during the trial period, a different yarn number is selected to be spun for another 15-minute trial period until the acceptable end breakage rate is obtained. The acceptable trial period is also used for a warm-up period which is followed by a one-hour test period. The spinning potential yarn number is calculated from the deviation of the actual yarn number spun from the desired yarn number and the number of spindles with end breakage during the one-hour test run.

The following descriptive terms may be of help in determining the relative level of spinning potential yarn numbers in this report:

Spinning Potential Yarn Number (SPY No.)

Description	Short Staple Group	Medium Staple Group	Long Staple Group
Low	34 - 42	38 - 50	44 - 58
Average	43 - 51	51 - 63	59 - 73
High	52 - 60	64 - 76	74 - 88

TABLE 14.--COTTON: STANDARD MACHINE SETTINGS AND SPECIFICATIONS FOR PROCESSING SPECIFIED STAPLE LENGTH GROUPINGS.

PROCESS	STAPLE LENGTH GROUP			
	SHORT	MEDIUM	LONG	EXTRA LONG
1. PICKER				
Standard Atmospheric Conditions:				
Temperature..... Degrees F.	75	75	75	75
Relative Humidity..... Percent	60	60	60	60
Each test lot is processed through a finisher-type picker twice to produce the specified weight of lab..... Ounces Per Yard	14	14	14	11
Type of Beater.....	Kirschner	Kirschner	Kirschner	Kirschner
Beater Speed..... r.p.m.	1,000	1,000	1,000	1,000
Settings:				
Feed Roll to Beater..... Inches	3/16	3/16	3/16	3/8
Grids to Beater, Top..... Inches	5/16	5/16	5/16	9/16
Grids to Beater, Bottom..... Inches	11/16	11/16	11/16	11/16
2. CARD				
Standard Atmospheric Conditions:				
Temperature..... Degrees F.	75	75	75	75
Relative Humidity..... Percent	60	60	60	60
Picker Lap Fed..... Ounces Per Yard	14	14	14	11
Sliver Delivered..... Grains Per Yard	50	50	50	40
Production Rate..... Pounds Per Hour	12-1/2	9-1/2	6-1/2	4-1/2
Doffer Speed..... r.p.m.	11	8	6	4
Cylinder Speed..... r.p.m.	165	165	165	165
Flat Speed..... Inches Per Minute	2-7/8	2-7/8	2-7/8	2-7/8
Licker-In Speed..... r.p.m.	435	435	435	435
Clothing:				
Cylinder, Hollingsworth Metallic..... Number	35	35	25	25
Doffer, Hollingsworth Metallic..... Number	29	29	29	29
Flats, Fillet..... Number	110	110	130	130
Settings:				
Feed Plate to Licker-In..... Inches	0.010	0.010	0.010	0.017
Mote Knife to Licker-In, Top..... Inches	.012	.012	.012	.012
Mote Knife to Licker-In, Bottom..... Inches	.010	.010	.010	.010
Licker-In Screen to Cylinder..... Inches	.034	.034	.034	.034
Licker-In to Cylinder..... Inches	.007	.007	.007	.007
Flats to Cylinder, Back, Center and Front..... Inches	.010	.010	.010	.010
Back Plate to Cylinder, Top..... Inches	.022	.022	.022	.022
Back Plate to Cylinder, Bottom..... Inches	.022	.022	.022	.022
Front Plate to Cylinder, Top..... Inches	.029	.029	.029	.029
Front Plate to Cylinder, Bottom..... Inches	.012	.012	.012	.012
Doffer to Cylinder..... Inches	.007	.007	.007	.007
Cylinder Screen, Back..... Inches	.022	.022	.022	.022
Cylinder Screen, Center..... Inches	.034	.034	.034	.034
Cylinder Screen, Front..... Inches	3/16	3/16	3/16	3/16
Doffer Comb to Doffer..... Inches	.017	.017	.017	.017
Crusher Rolls Pressure..... Pounds	281	281	281	281

TABLE 14.--CONTINUED.

PROCESS	STAPLE LENGTH GROUP			
	SHORT	MEDIUM	LONG	EXTRA LONG
3. SLIVER LAPER (Combed Only)				
Standard Atmospheric Conditions:				
Temperature..... Degrees F.	--	--	75	75
Relative Humidity..... Percent	--	--	60	60
Sliver Fed, 20 Each..... Grains Per Yard	--	--	42	42
Lap Delivered..... Grains Per Yard	--	--	808	808
Speed..... Yards Per Minute	--	--	46	46
4. COMBER (Model 52)				
Standard Atmospheric Conditions:				
Temperature..... Degrees F.	--	--	75	75
Relative Humidity..... Percent	--	--	60	60
Laps Fed, 6 Each..... Grains Per Yard	--	--	808	808
Sliver Delivered..... Grains Per Yard	--	--	50	40
Production Per Hour..... Pounds	--	--	22	22
Setting of Cushion Plate to Detaching Roll..... Inches	--	--	.33	.40
Nominal Waste..... Percent	--	--	16 to 17	16 to 17
5. DRAWING FRAME (Four Over Five)				
Standard Atmospheric Conditions:				
Temperature..... Degrees F.	75	75	75	75
Relative Humidity..... Percent	60	60	60	60
First Process:				
Sliver Fed, 8 Each..... Grains Per Yard	50	50	50	40
Sliver Delivered..... Grains Per Yard	55	53	53	42
Second Process:				
Sliver Fed, 8 Each..... Grains Per Yard	55	53	53	42
Sliver Delivered..... Grains Per Yard	60	55	55	44
Speed..... Yards Per Minute	36	36	36	36
Roll Settings (Center to Center):				
First to Third..... Inches	2-3/4	2-3/4	2-3/4	2-3/4
Third to Fourth..... Inches Plus Fiber Length	10/16	10/16	10/16	8/16
Fourth to Fifth..... Inches Plus Fiber Length	13/16	13/16	13/16	12/16
6. LONG DRAFT ROVING (8 X 4, 1-Apron Type)				
Standard Atmospheric Conditions:				
Temperature..... Degrees F.	75	75	75	75
Relative Humidity..... Percent	60	60	60	60
Sliver Fed..... Grains Per Yard	60	55	55	44
Roving Delivered..... Hank	1.30	1.80	1.80	4.25
Spindle Speed..... r.p.m.	1025	1025	1025	1025
Roll Settings (Center to Center):				
First to Second, Standard..... Inches	2-1/4	2-1/4	2-1/4	2-1/4
Second to Third..... Inches	1-3/8	1-1/2	1-5/8	1-11/16 to 1-7/8

READER FRIENDLY

TABLE 14.--CONTINUED

PROCESS		STAPLE LENGTH GROUP			
		SHORT	MEDIUM	LONG	EXTRA LONG
7. LONG DRAFT SPINNING (2-Apron Type)					
Standard Atmospheric Conditions:					
Temperature	Degrees F.	75	75	75	75
Relative Humidity	Percent	65	65	65	65
Roving Fed Single	Hank	1.30	1.80	1.80	4.25
Twist Multiplier	Number	4.4	4.0	3.8	3.6
Carded Yarns	Number *	8s & 22s	22s & 50s	22s & 50s	--
Combed Yarns	Number	--	--	22s & 50s	50s & 80s
Spindle Speed	r.p.m. **	9000	9000	9000	9000
Roll Settings (Center to Center):					
First to Second, Standard	Inches	2-1/16	2-1/16	2-1/16	2-1/16
Second to Third, Standard	Inches	1-3/4	1-3/4	1-3/4	1-3/4
8. OPEN-END SPINNING ***					
Standard Atmospheric Conditions:					
Temperature	Degrees F.	75	--	--	--
Relative Humidity	Percent	65	--	--	--
Sliver Fed	Grains Per Yard	60	--	--	--
Twist Multiplier	Number	4.5	--	--	--
Carded Yarns	Number	8s	--	--	--
Rotor Speed	r.p.m.	45,000	--	--	--
Rotor Diameter	mm	46	--	--	--
Opening Roll Speed	r.p.m.	7200	--	--	--

* Additional yarn is spun on a 96-spindle wide gage frame at 9,000 r.p.m. spindle speed to determine the spinning potential yarn number or the finest yarn number that can be spun without end breakage.

** All standard yarn numbers are spun on narrow gage frames with spindle speeds of 9,000 r.p.m. except for 8s, which are spun on a wide gage frame with spindle speed of 5,500 r.p.m.

*** Barber Coleman Spin-Flex Open-End Frame.